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Lexicon Phyſico-Medicum:

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OR,

A New MEDICINAL DICTIONARY;

EXPLAINING

The Difficult TERMS uſed in the
ſeveral Branches of the Profeſſion, and
in ſuch Parts of Natural PHILOSOPHY
as are introductory thereto:

WITH

An ACCOUNT of the Things
Signified by ſuch Terms.

COLLECTED

From the moſt Eminent AUTHORS; and
particularly thoſe who have wrote upon
Mechanical Principles.

By JOHN QUINCY, M.D.

The THIRD EDITION, with new Improvements
from the lateſt Chymical
and Mechanical Authors.

LONDON:
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To His GRACE the
Duke of *MONTAGU*.

My LORD,

IT is with great Pleaſure that I have an Opportunity of being firſt in an Addreſs to Your Grace, ſince You down to us in this Light, and they appear in as lovely, as deſirable, and as glorious a Splendor, as thoſe of the greateſt Heroes and Lawgivers: Even our own Annals are not ſilent in this reſpect; but long has it been ſince a Perſon of your Grace's Eminence has vouchſafed to appear upon their Records.

ON this generous Condeſcenſion, your Grace will not be ſurpriz'd to find the Eyes and Expectations of many turned towards You, as it gives them very pleaſing Views from ſo great an Example, and encourages them to hope for a Recovery of the due Reſpects and Advantages to a Profeſſion, which at preſent lies unhappily open to any Pretenſions. All Attempts of this kind being chargeable with ſelfiſh

Regards, may have hitherto been a Diſcouragement to its Profeſſors: But a Character ſuperiour to a Poſſibility of ſuch Suggeſtions, can give the neceſſary Weight to all Inſtances in their behalf. Every Seſſion of the Legiſlature gives freſh Proofs of a publick Concern for the particular Privileges even of the moſt inferiour Communities; and yet the Phyſician, who has been regularly educated, and given reaſonable and legal Teſts of Qualification, has his way to make thro' a vaſt Superiority, who have no other ſupport but conſummate Aſſurance, and all the Arts of Impoſture.

I AM not, my Lord, altogether a Stranger to the uſual Air of Addreſſes of this kind; but I have no

Talent at ſpeaking more than I know or think, any more than it can be grateful to a truly great and virtuous Mind to hear ſuch things ſaid. As therefore it is my Unhappineſs not any otherwiſe to be acquainted with one of your Grace's Eminence, but by this publick Inſtance of your Goodneſs and Beneficence, by That only am I encourag'd to take this Occaſion of declaring my ſelf, with the moſt profound Duty and Reſpect,

Your Grace's

Moſt Obedient and

Moſt Humble Servant,

JOHN QUINCY.

THE
PREFACE.

THERE are ſome things neceſſary to advertiſe the Reader of, by way of Preface to the following Work; both in regard to its Publication, and the Particulars wherein it is propoſed to be more ſerviceable than any yet extant of the ſame kind.

THE Study of Medicine has in all Ages been influenced by the Philoſophy in vogue, becauſe the Theory thereof is inſeparable from a good Competency of Knowledge in natural Cauſes; inſomuch that the Terms of Philoſophical Writers have been tranſplanted into the Diſcourſes of Phyſicians, and rendered it frequently neceſſary to explain ſuch new Terms for the uſe of thoſe who have not Leiſure or Opportunity to go the ſame Compaſs, and meet with ſuch Præcognita *as lie in the Courſe of more remote Studies. Hence works of this Nature have frequently followed any conſiderable Alterations in the Theory of Medicine, as neceſſary to interpret the Terms introduced thereby; and the lateſt of ſuch Performances have generally been preferred, for no other reaſon but that they have been the neweſt, and moſt fit for modern Uſe.*

THUS ſince the Introduction of Mathematical Reaſoning and the Application of mechanical Laws to a Study, indeed no otherwiſe knowable, the Books of Phyſicians abound with Terms very unmanageable, and which are not explained in any one Work extant ; for want of which Recourſe, thoſe Books are to many Readers, who at firſt are not aware of the Change, as difficult and unintelligible, as if wrote in Languages altogether unknown.

BLANCHARD's Lexicon Medicum *has been ever ſince its Publication much in requeſt among ordinary Readers, and is yet much the beſt of its kind for ſuch : but it is grown now extremely defective in the Reſpects already mention'd, becauſe there is ſo much of a new Turn of Reaſoning and Speaking among modern Phyſicians, that it is of no manner of Aſſiſtance in reading them with underſtanding. He alſo abounds with Terms long ſince intirely out of uſe, and now of no other poſſible Service, but to puzzle good Senſe, and to enable People to talk in a manner that has been already too long proverbial ; and better Improvements in* Anatomy, Chymiſtry, Botany, *and in almoſt all the Branches of the Profeſſion, have rendered the Explanations, even of the muſt uſeful Terms, very imperfect.* Caſtellus *is indeed a Work of Exactneſs and Labour, but moſt uſeful for a critical Reader of the Antients, and (if I may ſo call them) the Fathers in Medicine ; and is therefore far from being of that general and modern Uſe as this is intended for : altho what is therein of common Service, is here carefully retained.*

AS for the Uſefulneſs of Dr. Harris's Lexicon Technicum Magnum *in this reſpect, very little can be ſaid; becauſe he has done nothing elſe but tranſcribed* Blanchard, *good and bad, which muſt therefore depend upon its original Authority: and what he has added from ſome modern phyſical Writers appears to me to be in great part lame, either out of that Gentleman's Haſte, or Unacquaintance with the things themſelves he undertook to explain.*

IN this Attempt therefore, to ſupply former Defects, the Reader may expect ſo far a Compliance with the Lovers of Etymologies and Derivations, as the Original Significations of each Term, and the reaſon of its Application to ſuch particular Occaſion; more eſpecially where it gives any Hint or Diſcovery of the thing expreſſed. And this indeed may have its Uſe with many at their firſt Entry upon ſome of the practical Branches of this Science, as it is both neceſſary and ornamental at their Initiation into a Circle of hard Words, to underſtand them; becauſe it is an inſeparable Introduction to a Knowledge of the things themſelves, and a convenient Teſtimony to others of their having ſuch Knowledge.

BUT the chief Service I have herein propoſed, is an Explanation at large of many things themſelves contained under theſe technical Terms, ſo that they may be underſtood, in their greateſt Latitude, and the various Lights they are uſed in by modern Writers. As for inſtance, in the Word Momentum *or* Moment, *there is no Work* *of this nature in being that gives any of the Significations contained under it by modern Phyſical Writers, and yet they uſe it frequently, and with a great Latitude: This therefore, and all of the like nature, are explained in their various Senſes. And this has been render'd the more neceſſary becauſe leſs than half a Century has produced a great many Writings upon a way of Reaſoning, for many Ages before in diſuſe. The Lights and Diſcoveries theſe have brought into the ſeveral Branches of Medicine, are demonſtrably very great. I have been at no ſmall Pains therefore, not only to collect the Terms from ſuch Writings that former* Lexicons *and* Dictionaries *are Strangers to, but alſo in explaining the Things to be underſtood by ſuch Terms, that were not before known any more than the Terms themſelves; and this as near as poſſible in the Expreſſions of the original Authors, inſomuch that ſo far as we have been hitherto ſupply'd with a new Syſtem of* Phyſicks *and* Medicine, *they are digeſted into this Work.*

I SAY Phyſicks *and* Medicine, *becauſe the latter cannot ſubſiſt without the former; for which reaſon alſo are explain'd under ſome Term or other leading thereunto, all ſuch Parts of natural Philoſophy, and mechanick Laws, as are neceſſary* Præcognita *to ſome practical Rules of Medicine. The Reader therefore, on this View, will not wonder to find in a Work under this Title, a great deal about* Attraction, *the* Laws of Motion, Gravitation, Air, Winds, Tides, Light, Heat, Cold, *and the like; becauſe he will find* *how they naturally lead to the Knowledge of ſome important Points of Practice, which without ſuch previous Lights, muſt lie intirely in confuſion, and upon the Hazard of Experiment and Gueſs-work.*

AND becauſe what is brought from Phyſicks *and* Mechanicks *takes up ſo much room here, it may be neceſſary to inform the Reader, that there is no Knowledge in Medicine but by ſuch means. Experience without Theory will never make a Phyſician, any more than any other Practice can be obtain'd without an Acquaintance with the Rules on which it is founded; and he that is conducted only by Appearances, without being able to reaſon about their minuteſt Differences, will never ſee an Error till paſt recovery. Whoſoever tries the Powers of his own Mind in Attention upon theſe Matters, will find no true Satisfaction but upon the ſame Aſſiſtances and Means of Conviction, as he obtains any Acquaintance with ordinary Machines, and all Compoſitions of Matter. If there be any thing of Science in Medicine, it is conducted by Demonſtration, becauſe converſant with Objects cognizable only by the Evidence of Senſe; but without this, it is Chance and Confuſion: and the Enthuſiaſt and the Empirick are upon as good a Foot as the Scholar and the Phyſician. Not that I would be here underſtood to ſpeak of Certainty in all Inſtances of Practice, becauſe there are more* Data *requir'd to That than the Nature of Things can admit of: But the Theoriſt will come at more of thoſe* Data *than any other, and in every ſtep be able to compute all the Chances that are riſqu'd on either ſide* *a diſputable Caſe; whereas the Empirick and the Experimenter are altogether in uncertainty, having no Rules to make even Obſervation it ſelf of real uſe.*

THIS is not a Place for Controverſy, or in confirmation hereof, I might appeal to Mechanick *and* Hypothetical *Writings, in what a different manner the Mind is therein employ'd: the Latter amuſe and flatter a Reader into a loſs of all Diſtinction between* ſomething *and* nothing; *and the Former engage the Underſtanding, and force aſſent to Truths of Importance: the very Expreſſions of one ſort convey Ideas that are vague, deluſory, and confuſed; and of the other, ſuch as are adequate, diſtinct, and comprehenſive. Let a Perſon but compare, in this view, the* new Theory of Fevers, *and an* Eſſay on Poiſons, *with the* Criticon Febrium, *and* the State of Phyſick and Diſeaſes, (*all modern Books*;) *and I will venture to forfeit my ſmall Share of Reputation in theſe Matters, if he finds not as much difference between the former two, and the two latter, as between* Euclid'*s* Elements *and* Cornelius Agrippa'*s* Occult Philoſophy, *between Knowledge and Ignorance, Science and Chimera.*

BUT to leave this to more proper Occaſions; on my preſent Behalf I deſire it to be believed, that a ſincere Willingneſs, and deſire to communicate to others what I think to have been of uſe to my ſelf, is the real Motive of the Publication hereof. Opportunities of Information are not alike afforded to all; and Aſſiſtances eaſieſt to come at, may be very welcome to thoſe who cannot procure others.

others. I remember the Time, when ſuch a Work as this would have been very acceptable to my ſelf; it therefore may be allow'd me very naturally to ſuppoſe it agreeable to others in the ſame Courſe of Study.

IT may be here neceſſary to excuſe a Fault or two charged by ſome upon this Work ſince its firſt Impreſſion; viz. *in not obſerving a due Proportion in its Parts, and including ſometimes the Explanation of many Terms under one. As to the firſt, It is conceived never to abound, but where a Term hath ſo neceſſary a Connexion with the Things themſelves, that a right Senſe cannot be given but by explaining a great deal relating thereunto: as under the Words* Gland *or* Secretion, *it is of no Conſequence to know the Signification of either, according to the common Method of* Dictionaries, *without being taught alſo what concerns the Mechanical Structure of the one, and the Laws of Motion which take Place in the other. And this Enlargement in ſome Inſtances it has been thought proper to take notice of even in the Title of this Book. As to the other Objections, where the Explanation of one Thing hath neceſſarily taken in many others, it was thought much more uſeful to give all under ſome principal Word, and refer to that from others, than to give ſeparate Explanations under each; as under Eye, Ear, Parts of Generation, and the like, it hath been thought more uſeful to deſcribe the whole Organ together, than the ſeveral Parts ſeparately under their reſpective Names, as moſt convenient ſo to be underſtood, and taking up much leſs Room in the Whole.*

IT may be likewiſe added, that in this Edition a great deal relating to the Deſcription of Medicinal Simples *hath been expunged, as not proper to ſuch a Work, and in their room ſuch Materials ſupply'd as were thro' Inadvertency before omitted.*

Lexicon

Lexicon Phyſico-Medicum:

OR, A

New Medicinal Dictionary.

A B

A a Term in *Pharmacy*, otherwiſe wrote $\overline{a}$, $\overline{a\ a}$, or *ana*; which being never uſed but after the mention of two or more Ingredients, implies that they ſhould be taken in Quantities of the ſame Species and Denomination, whether by Weight or Meaſure, to form the Compoſition wherein they occur. The Word is originally *Greek*, *ἀνά*, a Prepoſition which ſignifies *ſeparately*, or *of each by it ſelf.*

Abaptiſton, the ſame with *Trepanum*, which ſee.

Abarticulation, or *Dearticulation*, the ſame with *Diarthroſis*, which ſee.

Abbreviations, in Medicine, are certain Marks or Half-words uſed by Phyſicians for the ſake of Diſpatch and Conveniency in their Preſcriptions, tho ſome are pleas'd to give another Interpretation to the thing, as if it was deſign'd to conceal their Art from ſuch as know leſs *Latin* than themſelves, or their Ignorance from ſuch as know more: but this kind of Short-hand is very convenient in urgent Caſes, or where a Patient's Life might be loſt whilſt a Man could write half a Sheet in the long way. Thus ℞ readily ſupplies the place of *Recipe*; *h. s.* that of *hora ſomni*; *m. f.* that of *miſce fiat*; *n. m.* that of *nucis moſchatæ*; *nuc. caſtan.* that of *nucis caſtaneæ*; *Elect.* that of *electuarium*, *Hauſt.* that of *hauſtus*, *&c.* and in general, all the Names of compound Medicines, with the ſeveral Ingredients, are frequently wrote only up to their firſt or ſecond Syllable, or ſometimes the third or fourth, to make them clear and expreſſive. Thus *Croc.*

Anglic. ſtands for *Crocus Anglicanus*; *Theriac. Andromach.* for *Theariaca Andromachi. Elect. Lenitiv.* for *Electuarium Lenitivum, &c.* a Point being always plac'd at the end of ſuch Syllables in Medicine, ſhews the Word is incomplete. See *Characters.*

Abdomen, from *abdo* to hide, a Cavity containing many of the principal Parts of the human Body. It is commonly call'd the lower *Venter,* or Belly. It contains the Stomach, Guts, Liver, Spleen, Bladder, *&c.* and is within ſide lin'd with a Membrane call'd the *Peritonæum.* The lower Part is called the *Hypogaſtrium*; the foremoſt part is divided into the *Epigaſtrium,* the right and left *Hypochondria,* and the Navel. 'Tis bounded above by the *Cartilago enſiformis,* and the Diaphragm, ſideways by the ſhort or lower Ribs, and behind by the *Vertebræ* of the Loins, the Bones of the *Coxendix,* that of the *Pubes,* and *Os Sacrum.* It is cover'd with ſeveral Muſcles, from whoſe alternate Relaxations and Contractions in Reſpiration, Digeſtion is forwarded, and the due Motion of all the Parts therein contained, promoted both for Secretion and Expulſion.

Abdominal Muſcles, are ten in Number, five on each ſide, which by their joint Contraction ſtrongly compreſs the *Abdomen,* and thus aſſiſt in the Action of Reſpiration and Digeſtion. See *Muſcles.*

Abducent Muſcles, from *abduco,* to draw from, are thoſe which ſerve to open or pull back divers Parts of the Body; their Oppoſites being called *Adducent,* from *adduco,* to draw to.

Abductor Indicis, is a Muſcle of the Fore-finger, which is not to be ſeen till the *Abductor Pollicis* is rais'd. It riſes from the *Os Metacarpi,* that ſuſtains the Fore-finger; and deſcending over the firſt Joint of the ſaid Finger, becomes tendinous; and uniting with the Tendon of one of the lumbrical Muſcles, is inſerted with it, together with the Tendon of the former Muſcle. Its Name expreſſes its Uſe, *viz.* to draw the Fore-finger from the reſt.

Abductor minimi Digiti, is a Muſcle which appears in ſome Bodies, divided into two or three Muſcles, having each a different Series of Fibres. It ariſes fleſhy from the third and fourth Bones of the *Carpus,* and the upper Parts of the ſubadjacent *Os Metacarpi*; and is inſerted with the Tendon of the *Extenſor minimi Digiti,* at the ſuperior Part of the third Bone of the little Finger: its uſe being to draw it from the others.

Abductor Pollicis, is a Muſcle of the Thumb, which ariſes broad and fleſhy from the internal Part of the *Ligamentum Tranſverſale Carpi*; whence deſcending, it leſſens and becomes tendinous at its Inſertion into the ſuperior and external Part of the ſecond Bone of the Thumb laterally. This draws the Thumb from the Fingers; whence it has its Name.

Abductor Pollicis Pedis, is a Muſcle which ariſes fleſhy from the *Os Calcis,* internally and laterally, and is inſerted with another, ſpringing from the *Os Cuneiforme majus* in one common Tendon, into the *Os Seſamoides* of the great Toe laterally. It ſerves to pull the great Toe from the reſt.

Abductor minimi Digiti Pedis, is a Muſcle which ariſes outwardly tendinous, but inwardly fleſhy, from the external Part of the *Os Calcis,* and becoming tendinous in half its Progreſs on the outſide of the Foot; where it joins with another from the

Os Metatarſi of the little Toe, and is inſerted with it into the upper Part of the firſt Bone of the little Toe externally and laterally; by which means it pulls the little Toe from the reſt.

Ablactation, is the weaning a Child, depriving him of the Breaſt, or taking him away from his Nurſe; as the Word compounded of *ab* from, and *lac* Milk, expreſly ſignifies.

Abluents, from *abluo*, to waſh away; are ſuch things as thin, dilute, purify and ſweeten the Blood, or correct its Acrimony. See *Detergents*.

Ablution, derived from the ſame, is that waſhing in Water which Chymiſts uſe to cleanſe ſome Medicines from their Impurities, but moſt commonly from their Salts, which Water diſſolves; as in *Diaphoretic Antimony*, and the like. It alſo ſometimes ſignifies bathing in Water, or cleanſing the Body externally from the Filth which may chance to adhere thereto.

Abomaſum, is one of the Ventricles of ſuch Animals as chew the Cud; in whom are reckon'd four, the *Venter*, *Reticulum*, *Omaſum*, and *Abomaſum*.

Abortion, is the ſame with Miſcarriage, and ſignifies that a Woman is deliver'd of her Burden before the due Time, or before the *Embryo* is completely form'd and fitted for Excluſion. 'Tis uſually counted unlawful among Chriſtians to procure Abortion by artificial means; but 'tis very remarkable of *Hippocrates*, that tho in his Oath, which he thinks ſhould be adminiſtred to all who deſign for the Practice of Phyſic, he makes it an Article, that they never attempt to procure Abortion; yet himſelf, if indeed it be *Hippocrates*, in both Caſes, formally delivers the Proceſs wherein he by violent Motion procured it in a young Woman not long gone with Child.

Abraſion, from *abrado*, to tear off, generally expreſſes the wearing away the natural Mucus which covers the Membranes, particularly thoſe of the Stomach and Guts, by corroſive or ſharp Medicines or Humours. It is alſo uſed to expreſs that Matter wore off by the Attrition of Bodies againſt one another.

Abracadabra, is a parcel of Letters, which like numerous other Combinations leſs taken notice of, make a Sound without any meaning; but which being written after a fantaſtic manner, and hung about the Neck, ſome have been ſo ſilly as to think would cure Diſeaſes. Thus *Serenus*, in his *Medicina metrica, cap.* 52. commends it againſt a *Semi-tertian*. But ſuch Tricks are now juſtly deteſted as unlawful, by all Phyſicians who call themſelves Chriſtians, and laugh'd at by the more rational part of the reſt.

Abſceſs, generally expreſſes that critical Diſcharge of Humours, which paſſes not off by the common Emunctories, but is ſeparated from the Blood in the Capillaries, where it collects in ſuch a quantity, as to form a Tumour, and break or corrode the Veſſels, if the Surgeon's Art does not otherwiſe give it vent. The *Pus* or Matter thus collected, is ſometimes included in a *Cyſtis*, and appears curdy, or elſe like Honey, or Tallow; and ſometimes too in the Body of the Tumour, Stones or other heterogeneous Subſtances have been found. Both *Hippocrates* and *Galen* ſometimes uſe the Word in a more lax Senſe, to ſignify the Converſion of one kind of Fever into another; as of an *Intermittent* into a *Continuent*, or the contrary: and at others to expreſs any critical Evacuation. It is the ſame with *Apoſteme*, or *Impoſthumation*; and deriv'd from *abcedo*, to go off.

Abſolute Gravity, is that Property in Bodies by which they are ſaid to weigh, without regard to any Circumſtances of Modification, and is always obſerv'd to be as their Quantity of Matter. See *Specifick Gravity*.

Abſorbent, from *abſorbeo*, to drink up, is ſuch a Medicine as by the Softneſs or Poroſity of its component Parts, either caſes the Aſperities of pungent Humours, or like a Spunge dries away ſuperfluous Moiſture in the Body, and is the ſame with a *Dryer*, or a *Sweetener*. *Waldſchmidt* in his *Inſtitutions*, erroneouſly reckons the *Abſorbents* amongſt *Aperients*, for they are never ſo but by Accident.

Abſorbent Veſſels, are thoſe Lacteals which open with their Mouths into the ſides of the inteſtinal Tube, to drink in the Chyle from thence, which they diſcharge into the Meſenteric Veins.

Abſtergent, ſee *Detergent*.

Abſtraction, from *abſtraho*, or *abtraho*, to draw from, is a Power peculiar to the Mind of Man, whereby he can make his Ideas, ariſing from particular things, become general Repreſentatives of all of the ſame kind. Thus, when the Eye repreſents Whiteneſs in a Wall, a Man can abſtractedly conſider the Quality of Whiteneſs, and find it attributable to many other things beſides; as to Snow, to Milk, or the like: and this Quality, whatſoever it be, conſider'd apart from the Concrete, or the Subject in which it inheres, is ſaid to be taken in the Abſtract. This is the Doctrine of Mr. *Locke*, and others who wrote before him, but it has ſince his time been call'd in queſtion; for ſome there are who deny all ſuch abſtract Ideas, and tell us that a general abſtract Idea is a mere nothing, all the Ideas we have being conſtantly particular: ſo that they would ſay 'tis impoſſible to think of *White*, abſtractedly or independent of ſome Subject wherein 'tis lodged. Whether this be true or no, every Man may beſt know by his own Experience; but the Point well clear'd would open a new Scene in the Doctrine of Qualities; and poſſibly over-ſet a great part of our preſent Philoſophy about them. This Term is likewiſe uſed in Pharmacy for the drawing off or exhaling away a Menſtruum from the Subject it was put to diſſolve.

Abſtractitious, from the ſame Derivation as the foregoing, is uſed by *Ludovicus* and ſome other Writers in *Pharmacy*, to diſtinguiſh the natural Spirit from that artificial one which is procured from them by Fermentation.

Acanaceous, from *ἀκάζω*, *acuo*, to ſharpen. All Plants of the Thiſtle kind, that are prickly, and have Heads, are called *Acanaceous*. Alſo the ſharp and prominent Parts of Animals are frequently thus call'd.

Acantabolus, is a Surgeon's Inſtrument, called alſo *Volſella*, like a Pair of Pincers, wherewith to take out any prickly Subſtance that ſhall chance to ſtick to the *OEſophagus*, or Gullet; as alſo the Fragments of corrupted Bones, Hair, or any thing that by chance remains in a Wound. 'Tis alſo uſed for that Inſtrument wherewith People pull out the Hairs of their Eyebrows; from *ἄκανθα*, *Spina*, a Thorn, and *βάλλω*, *jacio*, to throw away.

Acantha, from *ἀκάζω*, *acuo*, to ſharpen; is ſometimes taken for the *Spine*, or rather the outward Protuberances thereof, which are ſomewhat ſharp, and preſerve the Marrow of the Channel in the Back-bone from external Injuries.

Acari, a ſmall Creature bred in Wax, ſaid by *Ariſtotle* to be the leaſt Object of the human Sight. It alſo ſignifies a particular kind of Vermin, that lodge themſelves under the *Cutis* and *Cuticula*.

Acceleration, is a continual Increaſe of Motion in any Body, as Retardation is its Decreaſe; both which may be made intelligible from due Attention to this Axiom, *The Mutation of Motion is always proportionable to the Force impreſſed, and according to the Direction thereof.* For ſuppoſing Gravity, whatever it be, to act uniformly on all Bodies at equal diſtances from the Earth's Centre, and that the time in which any heavy Body falls to the Earth be divided into equal Parts infinitely ſmall; let Gravity incline the Body towards the Earth's Centre, while it moves in the firſt infinitely ſmall part of the time of its deſcent, if after this the Action of Gravity be ſuppoſed to ceaſe, the Body would go towards the Earth's Centre equally, with a Velocity equal to the Force of the firſt Impreſſion. But now ſince the Action of Gravity ſtill continues; in the ſecond Moment of Time the Body will receive a new Impulſe downwards, and then its Velocity will be the double of what it was in the firſt Moment: in the third Moment or Particle of Time, it will be triple; in the fourth, quadruple, and ſo on continually. Wherefore, ſince thoſe Particles of Time are ſuppos'd infinitely ſmall, and all equal to one another, the *Impetus* acquir'd by the falling Body will be every where as the Times from the beginning of the Deſcent. And ſince the Quantity of Matter in the Body given continues the ſame, the Velocity will be as the Time in which it is acquired. See *Laws of Motion*, and *'sGraveſand*'s *Mathematical Elements of Natural Philoſophy*, where there are produced many Experiments, demonſtrating both the Laws of Acceleration, and Retardation of heavy Bodies.

Acceleratory Muſcles, from *ad*, to, and *celer*, ſwift; are thoſe of the *Penis*, from the upper-part of the *Urethra*, till it aſcends under the *Os Pubis*, which bind or conſtringe the *Corpora Cavernoſa* of the *Urethra*. They are called *Acceleratores Urinæ*, from their expediting the diſcharge by Urine. They alſo aſſiſt the *Erectores Penis*, by driving the Blood contained in the Bulb of the cavernous Body of the *Urethra* towards the Glans, in a greater quantity, whereby it becomes diſtended; the Veins which carry off the refluent Blood from the *Corpus Cavernoſum* being at that time compreſſed by the ſwelling of theſe Muſcles.

Accenſion, from *accendo*, to kindle; is the kindling, or ſetting any Body on fire.

Acceſſion, the ſame as ϖαροξυσμὸς, among the *Greeks*, and the *Exacerbation* of the *Latins*; is the Fit, or Time of being worſt in any *Intermittent* Diſeaſe.

Acceſſory Nerve, from *ad*, to, and *cedo*, to approach, ſo called by *Willis*, is that which ariſes from the *Medulla Spinalis*, about the beginning of the ſixth Pair of the Neck: as it aſcends to the Head, it receives on each ſide a Twig from the firſt five Pair of Nerves of the Neck, as they ariſe from the *Medulla Spinalis*; then it enters the Skull, and paſſes out of it again, with the *Par Vagum*, and is wholly ſpent upon the *Muſculus Trapezius*.

Accident, is what cannot ſubſiſt of it ſelf, but hath a neceſſary Relation to ſomething elſe. And an Effect or Diſtemper is ſaid to be accidental, which does not flow neceſſarily from the firſt Cauſe, but from caſual Interpoſitions. And it is by ſome Writers uſed pretty much in the ſame Acceptation as the Term *Symptom*.

Accretion, from *ad*, to, and *creſco*, to increaſe, ſignifies the ſame as Appoſition, or Juxta-Poſition. Dr. *Havers*, in his *Oſteology*, ſays, that the nutritious Particles being ſeparated by the Glands placed every where on the ſides of the Arteries, are carried into thoſe ſmall nervous Pipes or Interſtices of the Fibres, where the Spirits move, ſo that they fall in the way of the Spirits Motion; which he ſuppoſes to be twofold; one direct, and the other rotatory. While an Animal is capable of Accretion, and the Particles of which the Solids conſiſt, are not entirely united at their Extremities, but capable of receding one from another, both end-ways and laterally; the Spirits act upon the nutritious Particles by their rotatory Motion, by which they carry them to the ſides of the Fibres and bony Strings, driving ſome againſt the ſides of their Parts, and forcing them out laterally: others they drive into the Interſtices between the Extremities, thereby lengthening every Series of them; and thus the Parts of an Animal Body increaſe both in Thickneſs and Longitude. But after the Particles are united at their Extremities, and no longer capable of making room to lodge the nutritious Parts out of the way of the direct Motion of the Spirits; then the Spirits come to act upon the nutritious Matter by that Motion, and ſo drive it thro' the nervous Channels, that it has not the liberty of ſtopping and adhering: upon which the Accretion of the Animal ceaſes.

Acerb, from *Acerbus*, ſour; ſignifies ſomewhat acid, with an addition of roughneſs; as moſt Fruits are before they are ripe.

Acetabulum, the ſame as *Umbilicus Veneris*. It expreſſes alſo that Cavity in the Huckle-Bone, which is appointed to receive the head of the Thigh-Bone within it: and likewiſe ſeveral Glands are called *Acetabula*; concerning which, ſee *Cotyledones*.

Acetum, Vinegar; the Productions of vinous Fermentation, fermented afreſh after a peculiar manner, are thus call'd. Vinegar is a ſolution of the Tartar, or native Salt of the Vegetable which affords it, and therefore has wonderful Virtues in Medicine, exceeding thoſe of Wine; but its Nature, Virtues and Uſes, muſt be learn'd from Chymiſtry.

Achilleius, or *Tendo Achillis*. The Tendon formed by the Tails of ſeveral Muſcles, and tied to the *Os Calcis*, is thus called, from its action in conducing to ſwiftneſs of Pace, the Term importing ſo much.

Achor, is a Species of the *Herpes*, and appears with a cruſty Scab, which cauſes an itching and ſtink on the Surface of the Head, occaſioned by a ſalt ſharp Serum ouzing thro' the Skin.

Acidulæ, a diminutive of *Acid*, are medicinal Springs, impregnated with ſharp Particles, as all the Nitrous, Chalybeate, and Alum Springs are. The ſpecific Gravities of the ſeveral Mineral Waters of *England*, are not yet ſettled to the Satisfaction of all Parties: ſome making them lighter, and others heavier than common Water; and each ſtrenuouſly and poſitively arguing on his own ſide, and fondly ſuppoſing that the Waters themſelves can never alter, (tho we ſee they do every hour) and that themſelves cannot be miſtaken in their Experiments, tho try'd ever ſo roughly. There are very few Men qualified to make this Experiment with any tolerable accuracy; and tho it were done to the utmoſt exactneſs, he muſt be but little acquainted with Nature, who ſhall pretend to draw any general and dogmatical Concluſions from his own particular Obſervations, made, perhaps, only at a few particular times, without any regard to the thouſand Circumſtances that wou'd be taken into conſideration by a wary Naturaliſt.

Acids, from *Acidus*, ſour: all Liquors and Subſtances are ſo called, which being compoſed of pointed Particles, affect the Taſte in a ſharp and piercing manner. The common way of trying whether any particular Liquor or Subſtance hath in it Particles of this kind, is by mixing it with Syrup of Violets, which it will turn of a red colour; but if it has none, and inclines to the other ſide, that of containing alkaline or lixivial Particles, it changes that Syrup green. The generality of Mankind ſeem little aware of what vaſt importance it is to Phyſic and Natural Philoſophy, fully to ſettle and determine the preciſe Nature, and ſet the Difference between Acids and Alkalies. This has indeed been attempted by various Writers in Medicine, but with Views too narrow and confin'd for a general Naturaliſt, who might eaſily clear up the Point from a variety of Experiments; but not without a conſiderable degree of Knowledge in Chymiſtry. The Words in themſelves carry a preciſe Meaning, and are not the vague fluctuating Terms they paſs for among the ignorant. And he who does not know the difference between *Alkalies* and *Acids*, the properties and ſigns of each, their effects upon the human Body, and when to apply them, ought not to be truſted in the practice of Phyſic. But this neceſſary piece of knowledg is not to be gain'd without converſing with genuine Chymiſtry, which alone can teach the Generation, Deſtruction, Tranſmutation and Diſguiſes of *Acids* and *Alkalies*, with their Nature, Powers, Properties, Effects, and various Uſes both in natural Philoſophy and Medicine.

Acid Spirits: thoſe of Vitriol, Sulphur, *&c.* are ſo called, but very improperly, becauſe they are ſpecifically heavier than Water, and are nothing elſe but ſharp Salts divided and fuſed in Phlegm. Sir *Iſaac Newton* and M. *Homberg* have furniſh'd us with a very pretty Theory of *Acids*, as to the manner of their action, which proceeds from their attractive Powers, and pointed Figures of their ſaline Spiculæ; and M. *Homberg* has an ingenious way of eſtimating their different Forces, which he finds to be in proportion to their Gravities.

Acini, ſmall Grains that grow in Fruits like the Grape-Stones; whence Anatomiſts have called many Glands of a ſimilar Formation, *Acini Glanduloſi.*

Aciniformis Tunica, is the ſame with the *Tunica Uvea* of the Eye.

Acmaſticos, the ſame as *Homotonos*, is a Species of a *Synochus*, wherein the febrile Heat continues of the ſame Tenor to the end.

Acme, from ἀκμάζω, *vigeo*, to grow ſtrong; ſignifies the height of any thing, and is more eſpecially uſed to denote the height of a Diſtemper; which is divided into four Periods by ſome Inſtitution Writers. 1. The *Arche*, the Beginning or firſt Attack. 2. *Anabaſis*, the Growth.

3. *Acme,* the Height. And, 4. *Paracme,* which is the Declenſion of the Diſtemper.

Acor, is ſometimes uſed to expreſs that ſourneſs in the Stomach contracted by Indigeſtion, and from whence Flatulencies and acid Belchings ariſe.

Acouſticks, are Medicines or Means to help the hearing, from ἀκȣ́ω, *audio,* to hear.

Acraſy, ἀκρασία, ſignifies Debility or Impotency, from Relaxation, or a loſt Tone of the Parts.

Acrid, from the ſame Original as the former, ſignifying the ſame thing, tho in a leſs degree.

Acrimony, expreſſes a Quality in Bodies, by which they corrode, deſtroy, or diſſolve others; from *acer,* ſharp. 'Tis of great importance to a Phyſician to be acquainted, as he can only be from Chymiſtry, with the various kinds of Acrimony attending the different kinds of Aliment, and ſo cauſing Diſeaſes in the human Body. There is firſt a ſaline Acrimony, which may be either muriatic, ſpontaneouſly acid, or fermented: the ſaline Acrimony may be the Cauſe of thirſt, hoarſeneſs, roughneſs, drineſs, ſtiffneſs of the Parts ſerving to Deglutition and the Voice; very conſiderably affect the ſerous Humours of the Body, too much diſſolve or unfit them for repairing the Body, and even deſtroy the Texture of the ſmaller Solids, and alſo occaſion gnawing Pains and the muriatic Scurvy: the ſpontaneous acid Acrimony will aſtringe or criſp up the Fibres, incraſſate and coagulate the Juices, give the Heart-burn, *&c.* And this kind of Acrimony principally reſides in ſuch Summer-fruit as is over-ripe. The like Effects, but in a leſs degree, may alſo be produced by fermented acrimonious Bodies, as by prick'd Wines, Vinegar, *&c.* by too free a Uſe whereof the Serum grows ſharp and acrid, ſo as to bring on the Rheumatiſm, Gout, *&c.* The aromatic or ſpicy Acrimony, cauſed in the Body by the mixture of acrid Salts, and Oils, will give a Thirſt, Heat, the Heart-burn, Vomiting, a Fever, *&c.* Thirdly, the Acrimony of ſtrong ſpirituous or inebriating Liquors, will cauſe a drineſs in the Mouth, a criſpy Conſtriction of the Fibres, an obſtinate Coagulation of the Juices, Weakneſs, Flatulencies, Obſtructions, Fevers, a Dropſy, *&c.* And laſtly, the ſubtile fermenting Acrimony of vinous Liquors newly brew'd or fermented, will generate Wind in the Inteſtines, cauſe Vomiting, a Diarrhæa, *&c.*

Acriſia, is a turbulent State of a Diſeaſe, which will ſcarce ſuffer any Judgment to be form'd thereof; from the privitive Particle α, and κρίνω, *judico,* to judge.

Acrocordon, is a particular Species of Warts, that is more ſharp, prominent and pendulous than the common ſort, much taken notice of by antient Writers, particularly by *Aetius* and *Celſus*; and of the ſame kind as *Plutarch* reports, *Q. Fabius Maximus* to have taken the *Cognomen* of *Verrucoſus* from, and mentioned by *Serenus Sammonicus* in this Diſtich.

Interdum exiſtit turpi verruca *papilla,*
Hinc quondam Fabio verum cognomen adhæſit.

Acromium, from ἄκρος, *ſummus,* the Top; and ὦμος, *Humerus,* the Shoulder; it is the upper Proceſs of the Shoulder-blade.

Acte, a Word by which ſome antient Writers expreſſed Elder.

Action, and *active Principles*, in Phyſic, have been made uſe of to expreſs ſome Diviſions of Matter that are by ſome particular Modifications, comparatively active in reſpect of others; as the Chymiſts call Spirit, Oil and Salt active, becauſe their Parts are ſo diſpoſed to Motion, in compariſon of thoſe of Earth and Phlegm: but in a ſtrict ſenſe, all Motion in Matter is rather Paſſion; and there is no active Principle, unleſs we call ſo that known Property of Gravitation, or Attraction, on which the *Newtonian* Philoſophy is founded.

Acuate, from *acuo*, to ſharpen; is when an Acid is added to any Mixture to ſharpen it, or make it ſourer than before.

Acute Diſeaſe. Inſtitution Writers define this very confuſedly: but what beſt expreſſes it, is any Diſeaſe which is attended with an increaſed Velocity of Blood, and terminates in a few days.

Additament, a Term of Chymiſtry; which ſignifies any Material mixt along with a principal Ingredient, to fit it for the deſign'd Operation. Thus Salts are diſtill'd from Bone-aſhes, Brick-duſt, or the like, to prevent their running together, and make them afford their Spirits with the greater eaſe.

Adducent Muſcles, from *ad*, and *duco*, to bring-to; are thoſe that bring forward, cloſe, or draw together the Parts of the Body whereto they are annexed: as,

Adductor Oculi, is the Muſcle of the Eye; ſo called, becauſe it inclines the Pupil towards the Noſe; and alſo *Bibitorius*, becauſe it directs the Eye towards the Cup in drinking.

Adductor Pollicis, is a Muſcle of the Thumb, which ariſes tendinous in common with the *Adductor Indicis*, and aſcends obliquely towards a broad Termination at the ſuperior Part of the firſt Bone of the Thumb; and this brings the Thumb near the Fore-finger.

Adductor Pollicis Pedis, is a Muſcle of the great Toe, which ariſes from the inferior Part of the *Os Cuneiforme tertium*, and is inſerted into the internal Part of the *Oſſa Seſſamoideia* of the great Toe, which it draws nearer the reſt.

Adenography, is a Treatiſe of the Glands, from ἀδὴν, *Glandula*, a Gland; and γραφω, *ſcribo*, to write.

Adenoſus abſceſſus, is a hard unripe Tumor, from obſtructed Viſcidities, that appears like a natural Gland, altho in Parts free from them.

Adeps, Fat, ſometimes is diſtinguiſhed from *Pinguedo*, and applied only to the harder Fat, commonly called Suet; but by moſt Writers they are uſed indifferently.

Adepts: Such are called ſo as pretend to ſome extraordinary Skill in Chymiſtry, from *adipiſcor*, to obtain; but theſe have too often proved either Enthuſiaſts or Impoſtors: and ſuch *Paracelſus*, *Helmont*, and their Followers have been thought; but whether juſtly or no, let thoſe ſay who are beſt acquainted with their Writings and Pretenſions.

Adequate, expreſſes an Equality in all the Properties of two Bodies, from *ad*, and *æquo*, to be equal to; and thus adequate Ideas are ſuch Images or Conceptions of an Object, as perfectly repreſent it.

Adiaphorous, a Term which implies the ſame with neutral; and is particularly uſed of ſome Spirits and Salts, which are neither of an acid nor alkaline Nature.

Adiapneuſtia, from the privative Particle *α*, and *διαπνέω*, *perſpiro*; is a Diminution or Obſtruction of natural Perſpiration, and that in which the Antients chiefly placed the Cauſe of Fevers.

Adipoſa Membrana, is any fat Membrane, whereof every Muſcle has one, from *Adeps*, which ſignifies Fat; but it is more particularly applied to that in which the Kidneys are wrapped up.

Adipoſa Vena, or *Renalis*, is a Vein ariſing from the deſcending Trunk of the *Cava*, which ſpreads itſelf on the Coat and Fat that covers the Kidneys.

Adipoſi Ductus, called alſo *Sacculi*, and *Veſiculæ adipoſæ*, are Paſſages which convey the Fat into the Interſtices of the Muſcles, or to the Parts between the Fleſh and the Skin.

Adjutorium, from *ad*, and *juvo*, to help, is a Bone ſo called, by *Veſalius* and others, becauſe it is very uſeful in lifting up the Arm. This Term is alſo given by ſome Writers to ſuch means of Cure as are only ſubſervient to others of more Importance.

Adnata Tunica, ſo called from *ad*, and *naſcor*, to grow to, is the common Membrane of the Eye; alſo called conjunctive, which ſprings from the Skull, and grows to the exterior Part of the *Tunica Cornea*; and that the viſible Species may paſs there, leaves a round Cavity forward, to which is annexed another Tunic, without any particular name, made up of the Tendons of thoſe Muſcles which move the Eye: by reaſon of its whiteneſs it is alſo called *albuginea*. See *Eye*.

Adoleſcens, expreſſes that Part of Life between the End of Childhood, and a Man's full Strength, and is reckoned the moſt healthful.

Ad Pondus omnium, the weight of the whole, ſignifies, that the laſt preſcribed Ingredient ought to weigh as much as all the others taken together.

Adſtrictory. See *Aſtringent*.

Adventitious, is any thing that accidentally, and not in the common Courſe of natural Cauſes, happens to make a Part of another; as the Nodes and Glands in ſtrumous Caſes are ſaid to be adventitious Glands, in diſtinction from thoſe which are naturally produced.

Adulteration, is the debaſing a Medicine with bad Ingredients, or putting one thing for another for the ſake of greater Profit: a thing very well underſtood by the wholeſale Dealers in all the Parts of Medicine.

Aduſt, from *aduro*, to burn; ſignifies ſuch Humours as by long Heat become of a hot and fiery Nature, as Choler, and the like. But this Term is of late much wore out of Phyſic, becauſe it conveys no diſtinct Idea.

Ægagropilus, is uſed for thoſe Balls which are generated in the Stomachs of ſome Animals, containing matter like Hair, and hard without ſide; and of which a very elaborate Diſſertation hath been wrote by *Hieronymus Velſchius*; which the Curious may turn to for further Information.

Ægylops, is a Tumour or Swelling in the great Corner of the Eye, by the Root of the Noſe, either with or without an Inflammation. This name is alſo given to a Plant, for its ſuppoſed Virtues againſt ſuch a Diſtemper. 'Tis derived from *αἰγαγρος*, *rupicapra*, a wild Goat, and *ϖῖλος*, *globulus*, a Ball.

Ægyptiacum, is an Ointment, tho improperly ſo called, as conſiſting only of Honey, Verdigreaſe and Vinegar. 'Twas firſt preſcribed by *Meſue*, and ſeems to take its name from its colour, which reſembles that of an *Egyptian*.

Æolipile, is a round hollow Ball made of Iron, Braſs, Copper, *&c.* and furniſhed with a Neck, in which there is a very ſlender Pipe opening to the Ball. Sometimes the Neck is made to ſcrew into the Ball, that the Cavity may the more readily be filled with Water. But if there be no Screw, fill it with Water, thus; heat the Ball red hot, and then throw it into a Veſſel of Water; the Water will run in at the ſmall Hole, and fill about $\frac{2}{3}$ of the Cavity. And if after this the *Æolipile* be laid on or before the Fire, ſo that the Water and Veſſel become very much heated, the vaporous Air will be forced out with very great Noiſe and Violence; but it will be by fits, and not with a conſtant and uniform Blaſt. Perhaps they may be ſometimes of uſe to blow the Fire, where a very quick and ſtrong Blaſt is required. And they may ſerve to ſcent or perfume a Room, by filling them with perfum'd inſtead of common Water. They are commonly uſed in *Italy* to cure ſmokey Chimneys; which they do by being hung over the Fire, and carrying up the ſmoke thereof along with the ſteam that iſſues out of their Orifice.

Æquilibrium, is when either equal Weights at equal Diſtances, or unequal ones at reciprocally proportionable Diſtances from the Center, make the Arms of any Libra or Balance to hang even; ſo that they do equiponderate, and not out-weigh one another: In ſuch a Caſe we ſay the Balance is *in Æquilibrio*, a common Term in Mechanicks.

Æquivocal. See *Equivocal*.

Æther is underſtood of that Medium or Fluid, in which all other Bodies float: but ſome explain themſelves to mean by this Term the whole Atmoſphere, and whatſoever is ſuſpended in it. But *Æther*, in propriety of Language, ſignifies a fine, fluid, ſubtile Subſtance or Medium much rarer than Air, and every way diffuſed in the interſtaller ſpaces of the World, ſo that it poſſeſſes infinitely more room than all the ſolid Matter of the Univerſe put together. An *Æther*, endow'd with all the Properties an ingenious Philoſopher cou'd require, might help to explain many Phænomena of Nature, and has for this purpoſe been adopted by Sir *Iſaac Newton*, and offer'd as the immediate Cauſe of Gravity. See *Air*.

Æthiops Mineral, a Medicine ſo called, from its dark colour, prepared of Quickſilver and Sulphur ground together in a marble Mortar to a black Pouder. 'Tis frequently preſcribed; but thoſe who have uſed it moſt, think its Virtues are not very great.

Ærugo, Verdigreaſe, is Copper reduced to a green friable Subſtance by Acids. *Dioſcorides*, *Rulandus*, *Schroder*, and other Writers on the *Materia medica*, deſcribe both a native and factitious Sort. Others give the ſame Appellation to the Ruſt of Iron or Lead, particularly *Fallopius*.

Æſtuary, a kind of Vapour-Bath. *Ambroſe Parey* calls an Inſtrument thus, which he deſcribes for conveying Heat to any particular Part; and *Palmarius*, *de morb. contag.* gives a Contrivance under this Name for ſweating the whole Body.

Ætiology, from αἰτία, *Cauſa*, a Cauſe, and λόγος, *Sermo*; is a Diſcourſe on the Cauſes of Diſtempers.

Ætites, Eagle-Stone, ſo called becauſe it is ſaid to be found in an Eagle's Neſt. It is about the Bigneſs of a Cheſnut, and is hollow with ſomewhat in it that rattles upon ſhaking; which affords ſome very odd Conceits, it being for this Reaſon termed by ſome, *Lapis veluti prægnans, alio in Utero ſonante, i. e.* A Stone pregnant with another. But the fabulous Conjectures of its Virtues begin to be taken but little notice of.

Affection, is applied on many Occaſions where the name of the Diſtemper is put adjectively, as Hypocondriacal Affection, and the like. This Term is alſo ſometimes uſed in Phyſics, much in the ſame ſenſe as Properties; as the Affections of Matter are thoſe Properties with which it is naturally endued.

Agillochum, Aloes Wood; it is a Tree in the *Eaſt-Indies* brought to us in ſmall Bits, of a very fragrant Scent. It is hot, drying, and accounted a Strengthener of the Nerves in general. The beſt is of a blackiſh purple Colour, and ſo light as to ſwim upon Water.

Agent, is improperly ſometimes attributed to Menſtruums, or ſuch Bodies as in Mixture have the greateſt ſhare of Motion.

Agglutination, is in ſtrictneſs the glewing two Bodies together; but generally imports the Addition of new Subſtance, or giving a greater Conſiſtence to the animal Fluids, whereby they are render'd fitter for Nouriſhment. See *Incraſſating*.

Aggregate, is the Sum ariſing from the Addition of two or more Bodies together; from *ad*, and *grego*, to gather together.

Agreſta, is the ſame as *Omphacium*, which is the Juice of unripe Grapes. The Oil likewiſe from unripe Olives is by ſome called in like manner.

Agrypny, from the private Particle *α*, and ὕπνος, *Somnus*, is long Watching, when Perſons cannot ſleep, and is the ſame as a *Coma Vigil*.

Agues: Intermitting Fevers of all kinds are of this Claſs; and whether there is a cold Fit or not, is of no great moment as to the Intentions of cure, that being more accidental than eſſential hereunto; altho indeed the Term *Ague*, if from *Algor*, Coldneſs, as ſome will have it, is applicable only where the cold Fit is ſenſible. See *Digreſſion* 2. concerning Agues, *&c.* in the Explanations of *Sanctorius*'s *Medicina Statica*.

Agyrtæ, formerly expreſſed certain Strollers, who pretended to ſtrange things from ſupernatural Aſſiſtances, but of late is applied to all Quacks, and illiterate Dablers in Medicine.

Air, is generally underſtood to be that Fluid in which we breathe, that is compreſſible, dilatable, and covers the Earth to a great height; and differs from *Æther* in refracting the Rays of the heavenly Luminaries. For its many Properties, conſult *Boyle*, *Hook*, and Sir *Iſaac Newton*; but the moſt material are the following.

The lower Parts of Air are always more compreſſed than thoſe above; and the Spaces into which it may be compreſſed, are always reciprocally proportional to the compreſſing Weight; and becauſe its Denſity is proportional to its Compreſſion, its Particles recede from each other with Forces reciprocally proportional to the Diſtances of their Centers.

The ſpecific Gravity of Air to Water, according to Mr. *Boyle*, is in round Numbers eſtimated, as 1 to 1000: But from comparing his Ex-

Experiments with the Obſervations of Dr. *Halley* and Sir *Iſaac Newton*, its Denſity appears to be nearer, as 1 to 800; and the Denſity of Mercury to Water being as 14 to 1, the Denſity of Air to Mercury will be as 1 to 11200: ſo that the Air we breathe in takes up 11200 times the ſpace that a like Quantity of Mercury would. And yet the Air by Experiment hath been found, without any adventitious Heat, by the Force of its own Spring, to poſſeſs 13000 times the ſpace it does when preſſed by the incumbent Atmoſphere; and therefore it may poſſeſs a ſpace 145600000 times greater than the ſame Weight of Mercury; and by the Addition of Heat, it may be forced to fill a ſpace yet much larger. Now if we conſider the Air we breathe in may be compreſſed into 40 times leſs ſpace than that which it now fills, it may then poſſeſs a ſpace 520000 times greater at one time than another; for 13000 × 40 = 520000.

Our Bodies are equally preſſed upon by the incumbent Atmoſphere, and the Weight they ſuſtain is equal to a Cylinder of Air, whoſe Baſe is equal to the Superficies of our Bodies. Now a Cylinder of Air of the Height of the Atmoſphere is equal to a Cylinder of Water of the ſame Baſe, and 35 Foot high, as appears by the Experiment of Pumping; ſo that every Foot ſquare of the Superficies of our Bodies, is preſſed upon by a Weight of Air equal to 35 cubical Feet of Water; and a cubical Foot of Water being found by Experiment to weigh 76 Pound Troy Weight, therefore the Compaſs of a Foot ſquare upon the Superficies of our Bodies ſuſtains a Quantity of Air equal to 2660 ℔, for 76 x 35 = 2660; and ſo many Foot Square as is upon the Superficies of a Body, ſo many times 2660 ℔ does that Body bear: So that if the Superficies of a Man's Body was to contain 15 ſquare Feet, which is pretty near the Truth, he would ſuſtain a Weight equal to 39900 ℔, for 2660 x 15 = 39900, which is above 13 Tun. The difference of the Weight of Air which our Bodies ſuſtain at one time more than at another, is alſo very great. The whole Weight of Air which preſſes upon our Bodies when the Mercury is higheſt in the Barometer, is equal to 39900 ℔: The Difference therefore between the greateſt and the leaſt Preſſure of Air upon our Bodies, may be prov'd to be equal to 3982 ℔. The Difference of the Air's Weight at different times, is meaſured by the different Height to which the Mercury is buoyed up in the Barometer; and the greateſt Variation of the Height of the Mercury being 3 Inches, a Column of Air of any aſſignable Baſe equal to the Weight of a Cylinder of Mercury of the ſame Baſe, and the Altitude of 3 Inches, will be taken off from the Preſſure upon a Body of an equal Baſe, at ſuch times as the Mercury is three Inches lower in the Barometer; ſo that every Inch ſquare of the Surface of our Bodies is preſſed upon at one time more than another, by a Weight of Air equal to the Weight of three cubical Inches of Mercury. Now a cubical Foot of Water being 76 ℔, a cubical Foot of Mercury muſt be 1064 ℔, = 102144 Drams. And as 102144 Drams is to a cubical Foot, or which is all one, 1728 cubical Inches : : $59\frac{192}{1728}$ Drams, to one cubical Inch. So that a cubical Inch of Mercury (throwing away the Fraction, which is inconſiderable) is = 59 Drams; and there being

ing 144 ſquare Inches in a Foot ſquare, therefore a Maſs of Mercury of a Foot ſquare Baſe $= 144$ ſquare Inches, and three Inches high, muſt contain 432 cubical Inches of Mercury, which $\times 59$ (the Number of Drams in a cubical Inch of Mercury) makes 25488 Drams: and this Weight does a Foot ſquare of the Surfaces of our Bodies ſuſtain at one time more than at another. Suppoſe again the Superficies of a human Body $= 15$ Foot ſquare, then would the Body ſuſtain at one time more than at another, a Weight $= 15 \times 25488 = \frac{382320}{8}$ Drams ($= \frac{47790}{12}$ Ounces) $= 3982 \frac{1}{2}$ ℔ Troy.

Hence it is ſo far from being a Wonder, that we ſometimes ſuffer in our Health by a Change of Weather, that it is the greateſt we don't always do ſo: for when we conſider that our Bodies are ſometimes preſſed upon by near a Tun and a half Weight more than at another, and that this Variation is often very ſudden; 'tis ſurprizing that every ſuch Change ſhould not entirely break the Frame of our Bodies to pieces. And the Veſſels of our Bodies being ſo much ſtraitned by an encreaſed Preſſure, would ſtagnate the Blood up to the very Heart, and the Circulation would quite ceaſe, if Nature had not wiſely contriv'd, that when the Reſiſtance to the circulating Blood is greateſt, the *Impetus* by which the Heart contracts ſhould be ſo too; for upon increaſe of the Weight of the Air, the Lungs will be more forcibly expanded, and thereby the Blood more intimately broken and divided, ſo that it becomes fitter for the more fluid Secretions; ſuch as that of the nervous Fluid, by which the Heart will be more ſtrongly contracted. And the Blood's Motion towards the Surface of the Body being obſtructed, it will paſs in greater Quantity to the Brain, where the Preſſure of the Air is taken off by the *Cranium*; upon which ſcore alſo more Spirits will be ſeparated, and the Heart on that account too more enabled to carry on the Circulation thro' all paſſable Canals, whilſt ſome others towards the Surface are obſtructed. The moſt conſiderable Alteration made in the Blood upon the Air's greater or leſſer Preſſure on the Surface of our Bodies, is rendring the Blood more or leſs compact, and making it croud into a leſs, or expand into a greater Space in the Veſſels it runs in: For the Air contained in the Blood always keeps itſelf *in Æquilibrio* with the external Air that preſſes upon our Bodies; and this it does by a conſtant *Niſus* to unbend itſelf, which is always proportional to the compreſſing Weight by which it was bent: ſo that if the Compreſſion or Weight of the circumambient Air be ever ſo little abated, the Air contained within the Blood unfolds its Spring, and forces the Blood to take up a larger Space than it did before. For further Effects of the Changes of Air upon human Bodies, ſee *Mead de Imperio Solis ac Lunæ in Corpora humana*; *Wainwright*'s *Non-naturals*; *Sanctorius*'s *Medicina Statica*, with *Explanations*; and particularly what here ſtands under the Term *Reſpiration*. As for its Elaſticity and undulatory Motion by which Sounds are propagated, with many other of its Properties, conſult *'sGraveſand*'s *Elements of Natural Philoſophy*, or rather *Wolfii Elementa Matheſeos univerſæ*.

Air-Pump, an Engine contriv'd to exhauſt or draw out the Air from Veſſels; in which any living Bodies or other Subſtances may be included,

ded, to ſhew the Effects thereof. This Engine has brought a deal of Light both into Philoſophy and Medicine; for the firſt Improvement whereof, ſo as to make it manageable and commodious, we are indebted to Mr. *Boyle*.

Al, is an *Arabic* Particle put to Words to exalt their Value or Significancy; as *Alcaly, Alchymy*, and the like.

Alagueca, a native Stone found in *Balagat*, that immediately ſtops any violent Hæmorrhage.

Alabaſtre, a certain ſoft Species of Marble, ſo called from the Name of a Town in *Egypt*, near which it grew. The Antients made great uſe of it for Boxes to contain their precious Ointments or Perfumes. At preſent it is pretty much neglected, tho Mr. *Boyle* made ſeveral Experiments upon it, which admirably illuſtrate and confirm his Doctrine of Fluidity and Firmneſs. As for what concerns Statues, or caſting of Moulds with this Stone, its place is now generally ſupply'd by Plaiſter of *Paris*.

Alæ, ſignifies Wings, and therefore is often uſed to expreſs ſuch Parts of the Body as bear any Reſemblance thereto; as the ſides of the Noſe, the upper Part of the Ear, and the Proceſs of the Bone *Sphænoides*.

Alares Muſculi. See *Pterygoides*.

Albuginea Oculi. See *Adnata Tunica*. *Albugo* and *Album Oculi* are the ſame. *Albugo* ſometimes alſo expreſſes the Pin and Web, which is a white Speck in the horny Tunicle of the Eye that obſtructs the Sight.

Albuginea Tunica. See *Tunica Albuginea*.

Alcaheſt, is an *Arabic* Word to expreſs a univerſal Diſſolvent, which was pretended to by *Paracelſus* and *Helmont*; the latter whereof (a Man otherwiſe of great Veracity, as to the Experiments he delivers, which have ſince his time been frequently repeated with Succeſs) calls all the Gods to witneſs that he was poſſeſs'd of it. Upon a full Examination into this Matter, and particularly by the diligent Search of the incomparable *Boerhave*, we have room to ſuſpect that *Helmont* in this caſe impoſed upon himſelf, or pretended to more than he could really perform; tho the thing in it ſelf involves no manner of Contradiction, and appears not abſolutely impoſſible to general Philoſophers, however ridiculous or deſperate it may be thought by Men not well verſed in chymical Matters. See *Boyle*, as to the Buſineſs of Menſtruums, and *Boerhave*'s Chymiſtry.

Alchymy, the more complex, difficult and elaborate part of Chymiſtry, chiefly concerned in the ripening, purifying and tranſmuting the baſer Metals into the nobler, as Tin or Quickſilver into Silver, or Gold, *&c.* by means of particular Menſtruums, Additions, or the univerſal Agent, Fire. 'Tis great pity this Matter has never been fully enquir'd into; for to a natural Philoſopher there is nothing at all contradictory or whimſical in it. A Man cannot ſhew his Ignorance in this part of Philoſophy more, than by treating it with an Air of Contempt; not but he may otherwiſe be a Man of great Knowledge or Learning; but *Alchymy* can never be learnt without Practice. Many ſurprizing things are daily done in this way by mere Mechanics, or illiterate Perſons who have had the Misfortune to be deſpiſed even by the Philoſophers, as well as the Men of the World. But whoever ventures to depreciate or ſpeak ſlightingly of Chymiſtry or Alchymy, ſhould firſt be ſure that they are not entirely ignorant of the Art they cenſure. The Prevalence of this forward Humour, has hinder'd many Men from publiſhing what they knew of this admirable Art, which any one may eaſily ſatisfy himſelf is no Chimera. They who are unwilling to be at the Expence of making particular Experiments, may conſult the Writings of ſuch candid and ingenuous Authors as Mr. *Boyle*, *M. Homberg*, and the preſent Profeſſor of Chymiſtry at *Leyden*.

Alcali, generally taken to mean all ſuch Bodies as will ferment with Acids; but more properly belongs only to ſuch Salts as are made by Incineration, and are ſometimes called lixiviate or fix'd Salts.

Alcalization, or *Alcalizated*, is when any Liquor is impregnated with an alkaline Salt, either to make it a better Diſſolvent for ſome particular Purpoſes, or to load the Phlegm ſo as not to riſe in Diſtillation, whereby the ſpirituous Parts will go over more pure.

Alcohol, a Term uſed by Chymiſts, both for a high rectify'd dephlegmated Spirit of Wine, and for any thing reduced into an impalpable Powder. *Rolfinkius*, *Wedelius*, and ſome others have diſputed much about its proper Etymology and Signification; but it now is well defin'd and limited by the modern Philoſophical Chymiſts.

Alembick, is the common Inſtrument of Diſtillation, which every one muſt have ſeen: But inſtead of the round Copper Head as uſual, 'tis now cuſtomary to have a Pewter Neck riſe ſomewhat higher out of it, and turn down again to join the Worm; becauſe this way the incloſed Liquor is not ſo apt to run over with too great a Fire; and it draws the Liquor finer.

Alexipharmick, is a Term doubtful both in its Etymology and Signification, but it is moſt ſtrictly apply'd to ſuch things as prevent the miſchiefs of Bites from poiſonous Animals; it is however commonly given to all thoſe things which avail in Fevers, eſpecially thoſe of a malignant kind, by promoting Sweat.

Alexiterial, is of the ſame Signification, and ordinarily uſed to Medicines given in Fevers.

Algarot, is a Name given by ſome Chymiſts to the *Mercurius Vitæ*.

Alhandal, an *Arabic* Name for *Colocynthis*.

Aliformes Muſculi, are Muſcles ariſing from the Pterygoide Bone, and ending in the Neck of the lower Jaw, and towards the internal Seat of the Head.

Aliformes Proceſſus, are the Prominences of the *Os Cuneiforme*.

Aliment, *ab alendo*, to nouriſh, includes all that is taken in, as Meat or Drink, from whence Nouriſhment is expected.

Aliquot Parts, are ſuch Parts of any Number or Quantity as will exactly meaſure it without any Remainder: As 3 is an Aliquot Part of 12, becauſe being taken 4 times, it will juſt meaſure it.

Alkaheſt, and *Alkali*. See *Alcaheſt* and *Alcali*.

Allentoies, is the urinary Tunick placed between the Amnion and Chorion, which by the Navel and Urachus (or Paſſage by which the Urine is conveyed from the Infant in the Womb) receives the Urine that comes out of the Bladder. Dr. *Hale* in *Phil. Tranſact.* N° 271. has given a very accurate Deſcription of the human Allentoies; and aſſign'd the Reaſon why thoſe who believed its Exiſtence, had not before fully found it out: and given alſo an Anſwer to thoſe who yet deny its Reality. This is likewiſe called *Farciminalis,* from ἀλλὰς, *Farcimen,* a Gut, and ἔιδος, *Forma,* Shape; becauſe in many Brutes it is in the Shape of a Gut-Pudding, but in Man, and ſome other Animals, it is round, and like the thin ſoft Skin which wrapped the Child in the Womb.

Almonds of the Throat, or *Tonſillæ,* called improperly Almonds of the Ears. They are two round Glands placed on the ſides of the Baſis of the Tongue under the common Membrane of the Fauces, with which they are cover'd; each of them hath a large Oval Sinus, which opens into the *Fauces,* and in it there are a great number of leſſer ones, which diſcharge themſelves thro' the great Sinus of a mucous and ſlippery Matter into the *Fauces, Larynx,* and *OEſophagus,* for the moiſtning and lubricating of thoſe Parts. When the OEſophagus Muſcle acteth, it compreſſeth the Almonds; and as they are ſubject to Inflammation, they frequently are the Occaſion of what the common People call a ſore Throat.

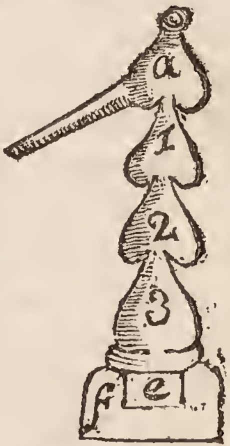
Aloeticks, are Medicines which chiefly conſiſt of Aloes.

Alopechy, is a falling of the Hair, from what Cauſe ſoever; from ἀλώπηξ, *Vulpes,* a Fox, whoſe Urine it is ſaid will occaſion Baldneſs; or becauſe ſuch a Diſeaſe is common to that Creature.

Alphus, is the Diſtemper deſcribed by *Celſus* under the Name of *Vitiligo,* wherein the Skin is rough, and looks as if it had Drops of white upon it, not much differing from Morphew.

Alteratives, or *altering Medicines,* are ſuch as have no immediate ſenſible Operation, but gradually gain upon the Conſtitution, by changing the Humours from a State of Diſtemperature to Health. See *Cathartics.* 'Tis now found a ſerviceable thing to give ſuch Medicines as are properly cathartic, by way of Alteratives in ſtubborn chronical Caſes. Thus the *Tinctur. Sacra,* for inſtance, given in the quantity of half a Spoonful for a Doſe, has no immediate effect upon the Inteſtines, ſo as to diſcharge their Contents, but paſſes on to the farther Stages of Circulation.

Aludels are ſubliming Pots uſed in Chymiſtry: They are without Bottoms, and fitted into one another, as many as there is occaſion for; at the Bottom of the Furnace there is a Pot that holds the Matter to be ſublimed; and at the Top there is a Head to retain the Flowers that riſe up after this manner.



a The Head.

1, 2, 3. Three Aludels.

e The Pot holding the Matter to be ſublimed.

f The Fire-Place.

Alvearium, the Cavity of the inward Ear, near the Paſſage which conveys the Sound. In it that Matter is collected called Ear-Wax.

Alveoli, thoſe Cavities in the Jaws where the Teeth are placed.

Alvus, is underſtood in the ſame manner as *Abdomen*; but, in a more limited and ſtrict Senſe, expreſſes rather the Condition of the Bowels: as when a Perſon is laxative, it is called *Alvus liquida*; when coſtive, *Alvus dura*; and when very coſtive, *Alvus adſtricta.*

Amalgama, is the Mixture of nay other Metal with Quickſilver.

Amalgamate, is a Chymical Term,

ſignifying the mixing of any other Metal with Quickſilver, either for the Conveniency of working it, as in Gilding, or to reduce ſuch Metal into Powder, as Gold, for medicinal Uſes.

Amatorii Muſculi, Muſcles of the Eyes, which give them a Caſt ſideways, and aſſiſt that particular Look which is by ſome called Ogling; from *amo*, to love, or *Amator*, a Lover. When the *Abductor* and *Humilis* act together, they give this oblique Motion.

Amauroſis, from ἀμαυρόω, *obſcuro*, to darken, is a Dimneſs of Sight, whether the Object be near or at a diſtance; but not from any viſible Defect in the Eye, but from ſome Diſtemperature of the inner Parts, occaſioning the Repreſentations of Flies, Duſt, *&c.* floating before the Eyes; which Appearances are nothing elſe than the Parts of the *Retina* hid and compreſſed by the Blood-Veſſels being too much ſtuffed and diſtended: ſo that in many of its Parts all Senſe is loſt, and therefore no Images can be painted upon them, whereby the Eyes, as it generally happens, being continually rolling round, many Parts of Objects falling ſucceſſively upon them, are obſcure. The Cure of this depends upon a removal of the Stagnations in the Extremities of thoſe Arteries which run over the Bottom of the Eye; and whatſoever forces away the Matter obſtructing them, will alſo be able to remove the like Obſtructions in the Arteries of any other Part of the Brain. For what is generally ſaid concerning the Optick Nerves being obſtructed in this Caſe, is ridiculous; for the Arteries muſt firſt be obſtructed, becauſe there is nothing in the Nerves, which was not before in the Arteries: and when a Nerve is obſtructed, it may be taken for incurable.

Amber, a concreted vegetable Juice or Gum, tho vulgarly refer'd to the foſſil Kingdom. 'Tis reckon'd Cardiac and Cephalick.

Ambe, is a ſuperficial jetting out of a Bone. It is alſo the Name of a Chirurgical Inſtrument with which they reduce Bones, deſcribed by *Scultetus*, *Arm. Chirurg. Par.* 1. *Tab.* 24. *Fig.* 1, 2. till proper Remedies for opening them are better known.

Amblyopy, is the ſame Diſeaſe as *Amauroſis*, which ſee; from ἀμϐλὸς, *obtuſus*, dull, and ὄπτομαι, *video*, to ſee.

Ambroſia, was a ſounding Title given to Medicines which were pretended of uncommon Efficacy for ſupporting the Principles of Life, and procuring a kind of Immortality: but ſuch Terms are now to be met with only amongſt the Herd of Empiricks.

Amma, is the Name of a Girdle or Truſs, uſed in Ruptures to hinder the Inteſtines from bearing down too much.

Amnion, or *Amnios*, is the innermoſt Membrane with which the *Fœtus* in the Womb is moſt immediately cover'd, and with which the reſt of the *Secundines*, the *Chorion*, and *Alantois* are ejected after Birth: it is whiter and thinner than the *Chorion*. It contains alſo a nutritious Humour, ſeparated by Glands ſupplied to it for that purpoſe, with which the *Fœtus* is preſerv'd. It is outwardly clothed with the urinary Membrane, and the *Chorion*, which ſometimes ſtick ſo cloſe to one another, that they can ſcarce be ſeparated. It hath all its Veſſels from the ſame Origin as the *Chorion*.

Amphibleſtroides, from ἀμφίϐληστρον, *Rete*, a Net, and εἶδος, *Forma*, Shape, is a ſoft, white, and ſlimy Subſtance, which is thus named, becauſe if it be thrown into Water, it reſembles a Net. It ſhoots from the Centre of the Optic Nerve, and conſiſts of the medullary Subſtance of it; and expanding it ſelf over the vitreous Humour, is extended as far as the *Ligamentum Ciliare*, or the Ligament of the Eye-Lids. If the whole Eye was to be conſider'd as a Flower, growing to the Brain by the Optick Nerve, this Tunick would be the Flower it ſelf, and the other two, the *Scelerotica* and *Choroides,* be only in the nature of a Stem. This ſeems to be the principal Organ of Sight, and receives the viſible Species within the Eye, after the ſame manner as a white Wall, or a piece of white Paper in a darkned Room, receives and repreſents the viſible Species which are intromitted thro' a little Hole, ſo as to form what we now call the *Camera Obſcura*; by ſeeing whereof the Nature of Viſion may be prettily explained.

Amphiſmela, is an anatomical Knife, that is edged on both ſides, from *ἀμφὶ*, *utrinque,* on both ſides, and *σμίλη*, *Cultellus,* a Knife.

Amphora, is a Meaſure mentioned by antient phyſical Writers, containing eight Gallons; of Oil 72 Pounds; of Wine 80 Pounds, and of Honey 180 Pounds, as *Caſtellus* informs us.

Amputation, is the cutting off any Limb, or Part of the Body.

Amulet, a thing hung about the Neck, or any other part of the Body, in hopes of preventing or curing ſome particular Diſeaſes. The thing it ſelf is thought to carry an Air of Superſtition along with it; and perhaps it has been much abuſed in that reſpect: but whoever conſiders the Nature of the Bodies uſually preſcribed for this purpoſe, the Effects of their Effluvia, the Openneſs or Poroſity of the human Body, with its wonderful Conſent of Parts, or their Action upon one another, will find no reaſon to disbelieve the poſſible Efficacy of Amulets; tho ſome deſigning Men have made an ill uſe of the Notion. That wonderful things are performable by them in Medicine, we learn from a Variety of actual Experiments, deliver'd by credible Authors, and from daily Practice. And if we give up theſe, all external Applications muſt be given up along with them, as ſtanding on the very ſame Foundation. 'Tis pity this Branch of Medicine is not more ſtudy'd and improv'd, becauſe all deſirable Advantages and Conveniences may attend the uſe thereof.

Ana. See *À*.

Anabaſis, is ſometimes uſed for the Height of a *Continuent*; and *Febris Anabatica* is the ſame as *Epaſmaſtica*, which ſee.

Anabroſis, is ſometimes uſed to expreſs a Solution of Continuity from the Eroſion of ſharp Humours.

Anacathartic, is what works upwards, from *ἄνω*, *ſupra*, upwards, and *καθαίρω*, *purgo*, to purge; and by *Hippocrates* and *Galen* was ſtrictly confined to ſpitting, with whom *Blaſius* pretty much agrees in reſtraining it to Expectoration only: tho *Blanchard* uſes it for all things which work by the Glands of the Head, as well as to Vomits and Sternutatories.

Anadoſus, is by ſome uſed to expreſs an uniform Diſtribution of the Aliment to the reſpective Parts of the Body, which is what we mean by a good Digeſtion.

Analeptics, from *ἀναλαμβάνω*, *refocillo*, to recruit; are ſuch Medicines as cheriſh the Nerves, and renew Spirits and Strength.

Analogyſm, is judging of Diſeaſes by ſimilar Appearances, or diſcovering a thing unknown by its Similitude with ſomething already known: and this way of Deduction was called by the antient Writers, *Medicina rationalis ſive dogmatica*, in oppoſition to the *Empirica*, which was conducted by Appearances only without Theory.

Analyſis, from ἀναλύω, *diſſolvo*, to diſſolve; is a chymical Term, which ſignifies the reſolution of Bodies into their component Parts, to ſhew the Nature, Structure, Uſes, and Virtues of the various Subjects of the ſolid animal and vegetable Kingdoms. It is alſo a Term ſometimes uſed in Anatomy, to expreſs the Demonſtration of the Parts of an human Body when ſeparated by Diſſection.

Anaphrodiſic: By this Word ſome Authors expreſs Impotency in venereal Intercourſes.

Anaplerotics, from ἀναπληρέω, *impleo*, to fill; are ſuch Medicines as incarn and fill up Ulcers and Wounds with new Fleſh. *Barbet* frequently mentions this Term.

Anarrhoea, is a Species of Fluxion oppoſite to a Catarrh, when Humours regurgitate upwards, uſed by *Schneider de Catarrh. lib.* 1: *cap.* 3. *Hippocrates* expreſſes the ſame by *Anarrhopia*; and *Linden* uſes it for an Inverſion of the Inteſtines, and a Regurgitation of the Fæces.

Anaſarca, from ἀνα, *per*, thro', and σάρξ, *Caro*, Fleſh; expreſſes a ſort of Dropſy, where the whole Subſtance is ſtuffed with pituitous Humours, See *Leucophlegmatic*.

Anaſtomoſis, from ἀνα, *per*, thro', and ϛόμα, *Os*, a Mouth. This ſometimes expreſſes ſuch an Aperture of the Mouths of the Veſſels as lets out their Contents; but more commonly a Union between the Arteries and Veins, where the former open into the latter, or where an Artery ceaſes any longer to be ſo, and begins to be a Vein: for the Veins are only Returns of the arterial Pipes or Arteries reverſed, to bring back the refluent Blood from the Surface.

Anatomy, from ἀνατέμνω, *diſſeco*, to divide, or cut open; is that Diſſection of Bodies which is neceſſary to lay open all the Parts to view: And the Learned in this Art are called *Anatomiſts*.

Anchylops. See *Ægilops*.

Ancon, is the top of the Elbow, or the backward and greater Shooting-forth of that Bone of the Cubit which is called *Ulna*. And hence,

Anconæus Muſculus, is a ſmall Muſcle which ariſes from the back Part of the Extremities of the *Humerus*, paſſes over the Elbow, and is inſerted into the lateral and internal Part of the *Ulna*, about three or four Fingers breadth above the *Olecranium*.

Ancylæ, ſtrictly ſignifies a Conſtriction upon the Joints, which renders their Motions difficult; in which Senſe *Galen* uſes it. *Celſus* expreſſes by it that hindrance to Motion which proceeds from a freſh Cicatrix upon the Part: And *Hippocrates* applies it to indurated Joints from any Cauſe.

Androtomy, is ſtrictly the Diſſection of human Bodies, from ἀνὴρ, *Vir*, a Man, and τέμνω, *ſeco*, to cut.

Aneuriſma, from ἀνευρύνω, *dilato*, to dilate; is the Dilatation of an Artery which beats continually, eaſily yielding to the Touch, but filling again, according to *Barbet*'s Deſcription, *Part* 2. *l.*1. *c.* 16. The Cure is difficult; but ſome Inſtances thereof are given by *Hildanus*, *Cent.* 3. *Ob.* 42. as alſo by *Bartholine* in an Epiſtle to *Van Horne*: But *Ruyſch* gives the moſt extraordinary Caſe, in *Cent. Obſ. Anat. Chir. Obſ.* 4.

Angelicus Pulvis, is a Diſtinction given by *Schroder* to the *Mercurius Vitæ*, and which *Libavius* hath thought fit to vindicate.

Angi : Fallopius, de Morbo Gallico, thus terms thoſe Tumours in the Groin, which the preſent Practice commonly diſtinguiſhes by the Name of *Buboes.*

Angina, from ἄγχειν, *ſtrangulare*, to ſtrangle; is ſuch an Inflammation of the Jaws or Throat, as renders ſwallowing and breathing very difficult and troubleſom. *Hippocrates* defines this a Tumour either internal or external, that interrupts Reſpiration; and *Galen* a Straitneſs of the Jaws that renders breathing and ſwallowing difficult, proceeding from Inflammation: but the Moderns have given diſtinct Names to the different kinds of this Diſorder; as *Synanche*, when the inner Parts are inflamed, or *Cynanche*, expreſſing an Inflammation of the internal Muſcles of the Throat, that thruſts out the Tongue, and makes the Patient pant like a Dog out of breath; and a *Paraſynanche*, when the external Muſcles are ſo tumify'd as to ſtraiten the Paſſages within. But it hath been juſtly obſerv'd, that too nice a Diſtinction of Names often darkens the true Knowledge of things.

Angle of Incidence, is that Angle made by the line of direction of any Body, at the point of contact, with the Body whereto it is directed; and is meaſured from a Perpendicular to the Plain, or Surface, at the Point where the two Bodies are ſuppoſed to meet. In like manner,

Angle of Reflection, is that Angle made by the line of direction of the reflected Body at the point of Contact, where it flies off.

Anglicus Sudor, is now commonly uſed to expreſs an epidemical colliquative Fever, ſince it was ſo in *England* in *Henry* VIIth's Reign, and elegantly deſcribed by the Lord *Bacon*, in his Hiſtory of thoſe Times, *Sennertus* largely treats of this Subject, *De Febr. l.* 4. *cap.* 15. But there are many Conjectures about its Cauſes that are merely ridiculous.

Angor, is defin'd a ſhrinking inwards of the native Heat of the Body, or its retiring to the Center, upon which follows a Pain and Palpitation of the Heart, attended with Sadneſs. 'Tis eſteem'd a very bad Symptom when it happens in the beginning of acute Fevers.

Anhelus, ſignifies Shortneſs of Breath, as in an *Aſthma.*

Anima Hepatis, is Salt of Steel, eſteemed as the Soul of the Liver, which this name imports, for its prevalency againſt its Diſtempers.

Animal Faculty. See *Faculty.*

Animal Secretion, is that Separation of Juices from one another which is perform'd by the Glands; and tho it is of the greateſt Importance to be well underſtood, of any one Branch of medicinal Knowledge, yet it has not been talk'd of by any in an intelligible manner, until ſome Authors, by the aſſiſtance of Geometrical Reaſoning, have demonſtrated the Laws of Circulation in an Animal Machine; the Summary of which may be conceived under theſe three Heads. 1. *The different Diameter of the Orifice of the Secretory Ducts:* For all Particles whoſe Diameters are leſſer than thoſe of the Ducts, will be excluded; inſomuch that any Matter may be evacuated by any of the Glands, provided the Diameters of its Particles be made leſs than thoſe of the Secretory Duct, either by a Comminution of the Matter to be ſeparated, or by an Enlargement of the ſeparating Paſſage. 2. *The different Angle which the Secretory Duct makes with the Trunk of the Artery;*

Artery: For all Fluids preſs the ſides of the containing Veſſels in a Direction perpendicular to its ſides; which is evident in the Pulſation of the Arteries, ſince 'tis to that Preſſure that the Pulſation is owing. It is likewiſe evident that the Blood is urged forward by the force of the Heart; ſo that the Motion of Secretion is compounded of both theſe Motions. Now the lateral Preſſure is greater when the direct Velocity is ſo too; but yet not in proportion to ſuch Velocity: for the lateral Preſſure is conſiderable, even when the Fluid is at reſt; being then in proportion to the ſpecific Gravity of the Fluid. And in a Fluid like the Blood in the Arteries, which is thrown in a right Direction, or a Direction parallel to the Axis of the Veſſel, the lateral Preſſure will be in a compound proportion to both: From whence it will follow, that if two Particles of equal Diameters, but unequal ſpecific Gravities, do arrive with the ſame Velocity at an Orifice capable of admitting them, yet they will not both enter it, and paſs, becauſe their Motion of Direction will be different. So that the Diverſity of the Angles which the Ducts make with the Trunk of the Artery, is altogether neceſſary to account for all the poſſible Diverſities of ſecerned Fluids, even ſuppoſing their Diameters and Figures to be the ſame. 3. *The different Velocities with which the Blood arrives at the Orifices of the Secretory Duct.* For ſince the Secretions are made in form of a Fluid, no other poſſible Reaſon can be aſſigned, why Animals have a ſoft looſe Texture and Union of the ſolid Parts; and why one Part of the Body is of an eaſily ſeparated Texture, and another of a firmer, but this different Velocity of the Blood at the Orifices of the ſecretory Duct; whereby the ſecerned Particles for Nouriſhment and Accretion are drove or impacted into the *Vacuola* that receive them with a greater or leſs Force: for it is difficult to imagine that ſuch a Diverſity in Texture can altogether proceed from the different Solidities and Contacts of the conſtituent Parts.

Dr. *Wainwright* has prefix'd ſome Propoſitions upon this Head, interſperſed with ſome properly Hydroſtatical, to his Book of *Non-Naturals,* which may be worth recital here.

Prop. 1. A Fluid muſt have its compounding Parts ſmall, ſpherical, or approaching thereunto; ſmooth, or ſuch as can eaſily ſlide over one another; and if homogeneous, the Parts muſt be of equal Denſity.

Prop. 2. Fluids preſs *undequaque,* and the Direction of their Preſſure is in every Point perpendicular to the ſides of the containing Veſſel; and therefore Secretion is perform'd by a Compoſition of two Motions, direct and tranſverſe.

Prop. 3. Of an heterogeneous Fluid at reſt in the Body, and equally preſſed, the moſt liquid Part is forced out firſt.

Prop. 4. An heterogeneous Fluid, ſuch as the Blood, whoſe compounding Parts are of different Denſities, upon its Stagnation will precipitate its heavy, and elevate its light Parts, and they all in time will take their Places according to their ſpecifick Gravities; and where the Fluid does not ſtagnate, the Separation of the heavy Parts from the light will be in proportion to the Slowneſs of the Motion of the Fluid.

Prop. 5. The red fibrous Part of the Blood upon its Stagnation, retires into the Center, and forces the Serum to the Outſide of the Veſſel.

Corol. The ſlower the Blood's Motion is, the more Serum is ſeparated.

Prop. 6. Fluids reſiſt the Motion of ſuch Bodies moſt, whoſe Surfaces are greateſt, in proportion to their Solidities; or, in other words, whoſe ſpecific Gravities are leaſt.

Prop. 7. The moſt viſcid Parts of Serum are lighteſt, *viz.* ſuch as are ſeparated in the Glands of the Noſe, Mouth, Palate, Windpipe, Stomach, Guts, *&c.* becauſe theſe ſwim in Water, which is lighter than Serum.

Corollary to the two laſt *Propoſitions.* The moſt viſcid Part of the Serum of the Blood is the leaſt ſuſceptible of Motion, or it is mov'd with the greateſt difficulty thro' the Arteries.

Prop. 8. A Fluid forced thro' a concave Cylinder, moves with a greater Celerity at the Axis, than at the Sides; and much more ſo thro' a concave Cone.

Prop. 9. The moſt light Parts being the leaſt ſuſceptible of Motion, will be forced to the Sides of the Arteries where there is the leaſt Motion; ſo that where there is the leaſt Motion, there the lighteſt Part of the Serum will be ſeparated (by the 7th *Propoſition*) that being the moſt viſcid.

Corol. 1. The Viſcidity of the ſeparated Fluid will be reciprocally as the Celerity of the Blood at the Orifice of the ſeparating Canal.

Corol. 2. The Velocity of the Blood at the Orifice of the ſeparating Canal, being as the number of Plications in the complicated Artery, the Viſcidity of the ſecerned Matter will be as the number of Plications in the complicated Artery.

Prop. 10. When the Motion of the Blood is too ſlow, the moſt ſerous Part of it is thrown upon thoſe Arteries which are the ſmalleſt, moſt complicated, or at the greateſt diſtance from the Heart: For the Motion of the Blood being too ſlow, more of the red Part of it will move along the Axis of the Artery than before, (by *Propoſition* 5.) therefore the red Part will move with much greater Celerity than the Serum (by the 8th and 9th *Propoſitions*) and conſequently thro' ſuch Arteries where there is the leaſt reſiſtance; that is, thro' the wideſt, the leaſt complicated, and thoſe neareſt the Heart: for which reaſon, the Serum will be forced upon ſuch Arteries as are the ſmalleſt, moſt complicated, or at greateſt diſtances from the Heart.

Prop. 11. A Gland is a complicated Artery, which ſends excretory Veſſels out of its Sides; after which it degenerates into a Vein.

Prop. 12. The Inteſtines are a Gland, and the Lacteals are the ſecretory Veſſels.

Prop. 13. The Orifices of the excretory Veſſels of every Gland are circular, ſince all the Veſſels in which the Fluids of the Body move, are either concave Cylinders or Cones; for the Preſſure of a Fluid being always perpendicular to the Sides of the containing Veſſel, and being at equal Diſtances from the Center, the Sides muſt be every where equally diſtended; *viz.* a Section perpendicular to the Axis of the Veſſel, muſt be a Circle, and conſequently the Veſſel be either Cylindrical or Conical. This is fully demonſtrated by Dr. *Pitcarne.*

Corol. 1. The Orifices of the excretory Veſſels of different Glands differing only in their Magnitude, the Fluids ſeparated in differing Glands, will differ only in Degrees of Coheſion and Fluidity.

Corol. 2. Any peccant Matter in the Blood, may be evacuated by any of the Glands, provided their Orifice be but ſufficiently enlarged.

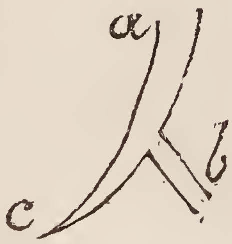
Corol. 3. The increaſing of one Evacuation will leſſen another, and *vice verſâ.*

Prop. 14. All the conglomerate Glands have Coats made of muſcular Fibres, with which they force out their Contents by Contraction; and the more in Quantity, or the more forcible any ſecerned Matter is to be expelled, the ſtronger are the muſcular Fibres.

Prop. 15. The relaxed Coat of any Gland increaſes the Viſcidity of the ſecerned Matter, and *vice verſâ*: for the ſecerned Matter will grow much more viſcid by ſtaying longer in the Gland; and the thin Part being evaporated by the Heat of the Body, the reſt will be more viſcid.

Corol. Opiates, Drunkenneſs, and whatſoever makes an univerſal Relaxation, increaſe the Viſcidity of the Matter ſeparated in all the conglomerated Glands.

Prop. 16. Such Glands whoſe compounding Arteries are moſt complicated, ſecern the moſt viſcid Matter from the Blood.



Demonſtration. Let there be a branched Canal of the annexed Figure, and let the Extremity of one of the Branches *c* be ſhut up, and the other Branch *b* be open; then by an Engine force thro' the Trunk *a* any kind of viſcid Liquor, ſuch as the Blood, or whoſe compounding Parts are ſome more, and ſome leſs fluxile, and it will equally run into both the Branches till the Branch *c* be full; but after that, what ſhould move thro' *c*, muſt paſs thro' *b*, ſo that the whole Liquor that paſſes thro' the Trunk *a*, muſt likewiſe in the ſame time paſs thro' the Branch *b*; now *b* being much ſtraiter than *a*, the Liquor muſt paſs with greater Celerity thro' *b* than *a*: So that ſuch Parts of the Liquor as are moſt eaſily moved, will firſt paſs the Branch *b*; and the Parts that are leaſt ſuſceptible of Motion, or in other words, thoſe which are moſt viſcid, will be ſolliciting their Entrance into the Branch *c*; but this viſcid Matter cannot enter without forcing ſome of the moſt moveable or fluid Part of what is contained in *c* into *b*, ſo that *c* will conſtantly fill with viſcid Matter, till it can hold no more. If therefore the Extremity of the Branch of any Artery be totally obſtructed, it is hereby diſpoſed to fill with the moſt viſcid Matter the Blood can ſupply, and that for this reaſon, *viz.* becauſe the progreſſive Motion of the Blood thro' that Branch muſt ceaſe; and in ſuch Branches of any Artery where the Motion of the Blood is the moſt retarded, thro' that Branch will the moſt viſcid Part of the Blood paſs, as the moſt fluid will in thoſe Branches where there is the leaſt Reſiſtance to the Motion of the Blood. Now in every complicated Artery, the Reſiſtance being greater than in a ſtrait one, the Motion of the Blood will be ſlower, and that in proportion to the number of Plications in the complicated Artery; therefore in the Arteries which are moſt complicated, the Motion of the Blood in them being the ſloweſt, its Viſcidity will be the greateſt; and therefore ſuch Glands whoſe compounding Arteries are moſt complicated, ſecern the moſt viſcid Matter from the Blood. *Q. E. D.*

Prop. 17. The Quantity of fluid Matter ſeparated in any Gland, is in compound Proportion of the Quantity of Blood, its Celerity at the Orifices of the excretory Veſſels, the Wideneſs of the Orifices of the Veſſels directly, and the Viſcidity of the Blood reciprocally.

Demonſtration. The Celerity of the Blood's Motion, the Wideneſs of the Orifices, and the Viſcidity of the Blood being given, the Quantity ſeparated muſt be as the Quantity of Blood directly; for a greater Quantity ſeparates more, and a leſs Quantity ſeparates leſs. The Quantity of Blood, its Viſcidity, and the Wideneſs of the Orifices being given, the Quantity ſeparated will be directly as the Celerity; for a greater Celerity gives a greater Quantity, and a leſs Celerity a leſs. The quantity of Blood, its Celerity and Viſcidity being given, the quantity ſeparated will be directly as the Wideneſs of the Orifice; for the wider the Orifices, the more will be ſeparated, and the ſtraiter the leſs. The Quantity and Celerity of the Blood, and the Wideneſs of the Orifices being given, the Quantity ſeparated will be reciprocally as the Viſcidity of the Blood; for the greater the Viſcidity, the leſs will be ſeparated, and the leſs the Viſcidity, the more: therefore none of theſe being given, the Quantity ſeparated will be as the Quantity of Blood. *Q. E. D.*

Prop. 18. An increaſed Quantity of Blood increaſes the fluid Secretions in a proportion greater than the viſcid.

Demonſtration. The Quantity of Blood being increaſed, the Diameter of all the Veſſels will be enlarged, but in different Proportions; for the ſame Force, in an increaſed Quantity of Blood applied to the leſs complicated Arteries, will diſtend them, or enlarge their Diameters more than it will the more complicate, becauſe the Reſiſtance in theſe is greater than in thoſe, and that in proportion to the number of Plications one Artery hath more than another. Now the Quantity of ſeparated Matter being, *cæteris paribus*, as the Wideneſs of the ſeparating Canal, (by the laſt *Propoſition*) the Quantity ſeparated in the leſs complicated Artery, whoſe Diameter is more enlarged in this Caſe, will be greater than what is ſeparated in a more complicated Artery; and ſeeing ſuch Glands whoſe compounding Arteries are moſt complicated, ſecern the moſt viſcid Matter from the Blood, and the leaſt complicated the moſt fluid, (by the 16th *Propoſition*) therefore an increaſed Quantity of Blood, by increaſing the Diameter of the leſs complicated Arteries more than of the more complicated, increaſes the fluid Secretions more than the viſcid. *Q. E. D.*

Prop. 19. A decreaſed Quantity of Blood leſſens the fluid Secretions more than the viſcid. This needs no Proof, being the Reverſe of the laſt.

Prop. 20. An increaſed Celerity of the Blood's Motion increaſes the fluid Secretions more than the viſcid; and *vice verſâ*, a decreaſed Celerity leſſens the fluid Secretions more than the viſcid.

Demonſtration. The Celerity of the Blood's Motion being greater, the *Impetus* by which the Arteries are diſtended, or their Diameters enlarged, will be greater, and ſo exert its Force more upon the leſs complicated Arteries than upon ſuch as are more complicated, and conſequently promote the fluid more than the viſcid Secretions: and becauſe an increaſed Celerity will, by breaking the Blood into ſmall Parts, render it more fluxile, and thereby ſupply a greater Quantity of ſuch Particles as will paſs the Glands, whoſe Diameters are the leaſt, therefore upon this account alſo an increaſed Celerity of the Blood's Motion will increaſe the fluid Secretions more than the viſcid. *Q. E. D.*

Prop. 21. An univerſal Enlargement of the Orifices of all the Glands increaſes the fluid Secretions more than the viſcid; and *vice verſâ*, an univerſal Contraction leſſens the fluid Secretions more than the viſcid.

Demonſtration. The Diameters of the ſmalleſt Orifices being enlarged, are big enough to ſecern the viſcid as well as the fluid Matter; and becauſe the Matter ſecerned in different Glands, differs only in degree of Coheſion and Fluidity, (by the firſt *Corol.* of the 13th *Propoſition*) therefore the Orifices of the ſmall Glands being enlarged, the more viſcid Matter that uſed to be ſeparated in other Glands, will be ſeparated in theſe: and therefore leſs will be ſeparated in thoſe Glands that are fitted for viſcid Secretions; and more in thoſe fitted for the fluid. Therefore an univerſal Enlargement of the Orifices of all the Glands increaſes the fluid Secretions more than the viſcid. *Q. E. D.*

Prop. 22. An increaſed Viſcidity of the Blood decreaſeth the fluid Secretions more than the viſcid; and, *vice verſâ*, an increaſed Fluidity increaſeth the fluid Secretions more than the viſcid.

Demonſtration. A decreaſed Celerity of the Blood's Motion leſſens the fluid Secretions more than the viſcid, (by the 20th *Propoſition*) but the Celerity decreaſeth, as the Reſiſtance increaſeth: Now the Reſiſtance is greateſt when the Blood is moſt fluid, becauſe it paſſeth with greateſt difficulty thro' the Capillary Arteries; therefore an increaſed Viſcidity, by leſſening the Celerity, decreaſeth the fluid Secretions more than the viſcid. *Q. E. D.* For a further Account of this Affair, ſee *Gland, Blood, Attraction*, &c.

Anima, as commonly uſed for the human Soul, hath no concern in a work of this kind; but it may be known that Phyſicians ſometimes uſed it for the Principle of Life to the Body, as the Blood, which is what *Willis* calls *Anima brutalis*, and is the ſame as the *Purpurea Anima* in *Virgil*. The Chymiſts alſo apply it to the Parts of ſome Simples, in which their medicinal Efficacies reſide; and thus we have an *Anima Rhabarbari*, &c. in *Wedelius* and ſuch Writers. Some Medicines alſo they dignify by this Name for their peculiar ſuitableneſs to particular Parts, as the Salt of Steel is called *Anima Hepatis*, and the like.

Animal Functions, are defin'd by the learned *Boerhave*, thoſe which when perform'd, the human Mind conceives ſuch Ideas from them as are annex'd to the reſpective corporeal Actions; or ſuch wherein the Will exerts it ſelf to produce them, or is moved by them when produced: Thus the Touch, Taſte, Smell, Sight, Hearing, Perception, the Imagination, Memory, Judgment, Reaſoning, Paſſions of the Mind, and voluntary Motions, are animal Functions.

Animal Spirits. See *Nervous Fluid.*

Animalcule, is a Diminutive of *Animal*, to expreſs ſuch ſmall living Creatures as cannot be diſcerned by the naked Eye; and which are to be diſcovered in many Fluids by the aſſiſtance of proper Glaſſes. See *Fœtus.*

Animation, a Term uſed to expreſs the firſt ſure Signs of Life in an Animal; 'tis alſo uſed by the Hermetic Philoſophers, to expreſs a certain State of perfection whereto a Body is brought by ſome particular Proceſs; at which time it becomes capable of effecting ſome extraordinary Change, or of producing or affording ſome uncommon Phenomenon.

Animus, diſtinguiſhed from *Anima*, as the former expreſſes the Faculty of Reaſoning, and the latter the Being in which that Faculty reſides.

Aniſcalptor. See *Latiſſimus Dorſi*.

Annihilation, is the Reduction of Matter into nothing. See *Corruption*.

Annuentes Muſculi, are a pair of tranſverſe Muſcles at the Root of the *Vertebræ* of the Back, called by Mr. *Cowper*, *Recti interni minores*, becauſe they lie under the *Recti majores*; and thus named, becauſe they help to nod the Head directly forward.

Annularis. See *Larynx*.

Annular Ligament. See *Wriſt*, and *Metacarpus*.

Annular Proceſs, is a Protuberance made by the meeting of the Proceſſes of the *Medulla Oblongata*, under the Sides thereof.

Annulus: This is variouſly applied by phyſical Writers; *Quercetan* in his *Med. Hermet.* deſcribes ſome *Annuli purgatorii*; *Libavius* treats of *Annuli* as Charms againſt Cholicks and Epilepſies: *Scultetus* gives this Appellation to Inſtruments contrived to hold open the Eye or like Parts in ſome Operations; and *Zecchius de Morbo Gallico* directs an *Annulus aureus* to be held in the Mouth to draw away the Quickſilver that hath been uſed in venereal Cures. The *Cricoides* is alſo by ſome called *Annuliformis Cartilago*.

Ano, *ἄνω*, is uſed for upwards, in oppoſition to *τῷ κάτω*, downwards, and is often joined by *Hippocrates* to *κοιλία*, *Venter*, to ſignify the Mouth of the Stomach, or OEſophagus. It is alſo applied to things which work upwards, as Vomits.

Anodyne, from the privative Particle *α*, and *ὠδύνω*, *doleo*, to be in pain; are Medicines that aſſuage Pain. Writers diſtinguiſh them into *Paragorick*, which are the milder kind, and no ways extinguiſh the vital Function; and the *Narcotick*, which ſtupify, and ſometimes occaſion a total Ceſſation of vital Action.

Anomalous, from the privative Particle *α*, and *νόμος*, *Lex*, a Law; ſignifies any thing that is irregular, and is variouſly applied. Some uſe it for the Acceſſion of a Fever, which is attended with a great uncertainty of Symptoms. *Galen* applies it to the Diſorders of menſtrual Obſtructions; and *Marcus Aurelius Severinus*, who wrote a whole *Treatiſe of Abſceſſes*, to Tumours either unequal in Shape, or containing matter of different Kinds and Conſiſtencies.

Anomphalos, ſignifies one that wants a Navel, and is applicable only to our firſt Parents as they were created, without want of Nouriſhment that way: for which Reaſon, as *Paulus Ammianus* ſays, they are ſo diſtinguiſhed in Paintings and Drawings.

Anonymus, ſignifies without a Name; for which Reaſon this hath been at firſt given to Parts newly taken notice of, as once to the ſecond Cartilage in the Throat, now called *Cricoides*, or *Cartilago annuliformis*.

Anorexy, from the privative Particle *α*, and *ὀρεχθέω*, *cupio*, to deſire; is an Inappetency, or loathing of Food.

Antacida: *Dolæus* in his *Encyclopædia* thus calls all thoſe things which deſtroy Acidity.

Antalgicus, is a Medicine which aſſuages Pain; whence *Jonquetus* gives it as a Title to an Emulſion of that Intention, as *Lentilius* obſerves in *Miſcel. Med. pract.* Page 514.

Antagoniſts, from *ἀντι*, *contra*, againſt, and *ἀγωνίζω*, *oppono*, to oppoſe; are Terms for oppoſite Muſcles, as an *abducent*, and an *adducent* Muſcle of any particular Limb.

Antaphrodoſiack, is a Term given to Medicines which extinguiſh venereal Deſires, particularly by *Wedelius*; and ſome uſe it in the ſame ſenſe as *Antivenereal*.

Antecedent Signs, from *ante* before, and *cedo* to go, are ſuch Symptoms of Diſorder as appear before a Diſtemper is formed, ſo as to be reduced to any particular Claſs, or proper Denomination: A Term much uſed of late by *Bellini de Febribus*.

Antemetick, is a Name given by *Willis* to Medicines which ſtay Vomitings. *Pharm. rat. Part* 1. *Sect.* 2. *Cap.* 3.

Antepileptick, given to Medicines againſt Convulſions; from the Etymological import of the word.

Anthelix, is the external Part of the Ear oppoſite to the *Helix*. See Ear.

Anthelminticks, from *ἀντι*, againſt, and *ἕλμινς*, *Vermis*, a Worm; are Medicines that are good to deſtroy Worms.

Anthology, from *ἄνθος*, *Flos*, a Flower, and *λόγος*, *Sermo*, a Diſcourſe; ſignifies a Diſcourſe or Treatiſe of Flowers.

Anthos, is *Greek* for Flower; but by way of Excellency, it is appropriated to *Roſemary*, ſo as to expreſs only *Flowers of Roſemary*.

Anthrax, *ἄνθραξ*, which ſtrictly ſignifies a live Coal, and figuratively a Scab or Blotch that is made by a corroſive Humour, that as it were burns the Skin, and occaſions ſharp pricking Pains. For which Reaſon ſome, as *Serenus*, call ſuch an Eruption *Carbo*, and others *Ignis Perſicus*.

Anthropology, from *ἄνθρωπος*, *Homo*, a Man, and *λέγω*, *dico*, to ſpeak; is any Diſcourſe or Treatiſe of which Man is the Subject, as,

Anthropometria, is conſidering it anatomically, and *Anthropoſophia* the Knowledge of the Nature of Man.

Anti: There are various Terms compounded with this, as Anti-hyſtericks, Anti-aſthmaticks, Anti-venereals, and the like; which ſignify Medicines againſt hyſterical Affections, againſt an Aſthma, or againſt the venereal Diſeaſe, from its natural Signification, againſt.

Anticardium, from *ἀντὶ*, *contra*, againſt, and *καρδία*, *Cor*, a Heart, is that Part of the Breaſt juſt againſt the Heart, commonly called the Pit of the Stomach, or *Scrobiculus Cordis*.

Antidote, from *ἀντὶ*, *contra*, againſt, and *δίδωμι*, *do*, to give; is a Medicine that is given to expel the Miſchiefs of another, as of Poiſon.

Antihecticum, is the Name of a Medicine invented by *Poterus*, called alſo *Antimonium diaphoreticum Joviale*. See its Preparation in the *Diſpenſatory*.

Antipathy, from *ἀντὶ*, *contra*, againſt, and *πάθος*, *Affectus*, Affection, expreſſes any oppoſite Properties or Affections in Matter. But it is a Term that hath been much abuſed by Sir *Kenelm Digby*, and ſome other hypothetical Reaſoners.

Antiperiſtaſis, from ἀντὶ, *contra*, againſt, and περίστημι, *circumſto*; ſignifies an Oppoſition from all around. The Philoſophers who firſt coined this Term, expreſs'd by it a certain Invigoration of internal Warmth by the Repulſion of external Cold, which they called alſo Concentration of the internal Heat, from driving it to the Center.

Antitenar, from ἀντὶ, againſt, and θέναρ, *Vola*, the Palm, is a Muſcle that draws the Thumb to the Fingers; it riſeth from the Bone of the *Metacarpus* that ſuſtains the Fore-finger, and is inſerted into the firſt Bone of the Thumb. It is alſo a Muſcle of the great Toe, ariſing from the inferior Part of the third *Os Cuneiforme*, and paſſing obliquely, is inſerted into the Inſide of the *Oſſa Seſſamoidea*.

Antrum buccinoſum: ſo *Bartholine* calls the *Cochlea* of the Ear.

Antitragus. See *Ear*.

Anus, is the Extremity of the *Rectum*. A ſmall Hole in the third Ventricle of the Brain, which leads into the fourth Ventricle of the *Cerebellum*, is alſo ſo called.

Aorta, is the great Artery which riſes immediately out of the left Ventricle of the Heart, and has three Valves of the ſame Uſe and Figure as the ſemilunar Valves in the Pulmonary Artery. See *Heart*.

Apella, the ſame as λειπόδερμος amongſt the *Greeks*, is when the Nut of the *Penis* lies bare, either by means of a Diſtemperature, when it is called a *Paraphimoſis*, or by Circumciſion; for which laſt Reaſon it is made by ſome a common Name for a Jew, or any circumciſed Perſon.

Apepſy, from the privative Particle α, and πέπτω, *coquo*, to boil, or concoct, is a loſs of natural Concoction; and is by *Hippocrates* uſed ſometimes for unripe Tumours.

Aperients, from *aperio*, to open; are opening Medicines. See *Detergents*. And *Apert* is ſometimes uſed to Tumours which are broke, as we read of *apertæ ſtrumæ* in *Scribonius Largus*.

Apetalus, from the privative Particle α, and πέταλον, *Folium*, a Leaf. See *Petala*.

Aphilanthropia: ſo *Wedelius* calls the firſt approaches of Melancholy, when Perſons begin to diſlike Company and Converſation.

Aphony, from the privative Particle α, and φωνὴ, *Vox*, a Voice, is a loſs of Speech.

Aphoriſm, is a ſhort determinative Sentence, ſuch as thoſe of *Hippocrates*, or *Sanctorius*. The *Aphoriſms* of the moſt learned *Boerhave* are every way admirable, and contain in a ſlender Volume all that is at preſent known of Diſtempers. 'Tis great pity the conciſe Accuracy wherewith they are wrote, ſhould prevent their being generally read.

Aphrodiſia, expreſſes the venereal Intercourſes of both Sexes; and therefore *Aphrodiſiacum* is applied to a Medicine that excites Deſires thereunto.

Apices, in *Botany*, are thoſe little Knobs that grow on the tops of the *Stamina* in the middle of a Flower. They are commonly of a dark purpliſh Colour. By the Microſcope they have been diſcovered to be, as it were, a ſort of *Capſulæ ſeminales*, or Seed-veſſels, containing in them ſmall globular, and often oval Particles, of various Colours, and exquiſitely formed. In the *Herb-Robert* theſe *Apices* are of a deep purple Colour: they are exactly ſpherical, and afford a very pleaſant

Proſpect in the Glaſs. What the Uſe of theſe are, is not yet entirely agreed: Some have gueſſed them to be a kind of Male Sperm, which falling down into the Flower, fœcundates and ripens the Seed.

Aphthæ, are certain Specks or Pimples about the internal Parts of the Mouth; as alſo about the Ventricle, and Guts, which Infants are more particularly obnoxious to: and both *Hippocrates* and *Galen* have taken notice of them in the Diſtempers of Children, chiefly which ſuck, as ariſing from the Acidity which unconcocted Milk occaſions.

Apocatharſis, is uſed for purging upwards and downwards, either with or without the help of Medicines.

Apocyliſm, was antiently uſed for the inſpiſſated Juice of Vegetables, the ſame as *Rob*, a Form now undeſervedly in diſuſe.

Apolepſis, is frequently uſed by *Hippocrates* and other of the Antients for a Retention of Urine, or any other matter to be evacuated, that occaſions a *Plethora*.

Apoluſis, ſignifies either the Excluſion of any thing, as of the Birth, the Fæces, or the like; or a Relaxation, by which any Part or the Whole is debilitated.

Aponeuroſis, from ἀπὸ, *de*, from, and νεῦρον, *Nervus*, a Nerve; is the End, Tail, or String of a Muſcle, commonly called a Tendon.

Apophlegmatizonta, Remedies are ſo called which cauſe an evacuation of ſerous or mucous Humour by the Noſtrils, as particular Kinds of Sernutatories, *&c.*

Apophyſis, from ἀποφύω, *produco*, to produce; a Name firſt given by *Galen* to the prominent Parts of ſome Bones, the ſame as we mean by *Proceſs*; and it differs from an *Epiphyſis*, as that is a Continuance of the Bone it ſelf, whereas the latter is ſomewhat adhering to a Bone, and of which it is not properly a Part, as *Bartholine*, and Anatomiſts ſince him diſtinguiſh them. *Hippocrares* applies this Term to ſome fleſhy Excreſcencies.

Apoplexy, from ἀποπλήττω, *percutio*, to ſtrike; becauſe Perſons are as it were ſuddenly ſtruck with Death. *It is a ſudden Deprivation of all internal and external Senſation, and of all Motion, unleſs of the Heart and Thorax:* For the underſtanding of which, it is neceſſary to premiſe, that if by any means a Nerve is tied and compreſſed, the Part to which that Nerve is directed loſes its Senſe and Motion; that if any Nerve is cut, there diſtils out a Liquor; that Motion is performed by reaſon the nervous Fluid is impelled by the Force of the arterial Blood thro' the Nerves into the muſcular Fibres; and that Senſation is from hence, that Objects compreſs or ſtrike upon the Extremities of the Nerves by their Motion, and drive back the nervous Fluid towards the Brain. An Apoplexy therefore is produced by any Cauſe which hinders ſuch Undulation of all the Nerves, unleſs thoſe which are deſtined to move the Heart and Breaſt. But the means by which the Motions of the Heart and Thorax remain, or of the Pulſe and Reſpiration, when the other Parts are deprived of their Motion, is becauſe in every Motion which is performed by Muſcles having Antagoniſts, a Quantity of nervous Fluid muſt be derived into the contracting Muſcle, not only equal to that which is derived at the ſame time into the oppoſite Muſcle, but alſo greater; for otherwiſe the Part to be moved would remain in an *Equilibrium*, without Motion: And therefore more of the nervous Fluid muſt paſs into a Muſcle that has an Antagoniſt, than that which has none. But the Heart is a Muſcle that has no Antagoniſt, and conſequently it requires a leſs Quantity of nervous Fluid to continue its Motion, than other Muſcles deſtined for the Motion of the Limbs; therefore if the Cauſe hindering the Undulations of all the Nerves is ſuch that no Juice could flow thro' the Nerves, the Heart it ſelf would ceaſe from Motion, and Death enſue. But if the Cauſe be not ſo powerful as to take away all the Motion of the Fluid thro' the Nerves, but ſo far only reſiſts their Dilatation, that but a very little Fluid can paſs thro' them not ſufficient to inflate thoſe Muſcles which have Antagoniſts; then thoſe Muſcles only will be contracted which require the leaſt Quantity of Spirits, and ſuch is the Heart. The Impediment to ſuch due Undulation is generally a Repletion, and indicates Evacuation, joined with *Stimuli.* *Bartholine* calls the internal jugular Veins *Apoplecticæ*, from an opinion of their being particularly concerned in this Diſtemper.

Aporrhoes, from ἀποῤῥέω, *defluo*, to flow from; ſignifies ſulphurous Vapours and Exhalations from the Earth, and ſubterraneous Bodies, as alſo any kind of infectious Steams.

Apoſtaſis, is uſed by ſome Writers in the ſame ſenſe as *Abſceſs*; and *Hippocrates* uſed it for ſuch Fractures of the Bones, where ſome Parts break off.

Apoſtrophe, is uſed by *Paulus Ægineta*, *Linden*, and others, for a loathing of Food.

Apoſteme. See *Impoſthume.*

Apothecary, from ἀπὸ, *cum*, with, and τίθημι, *pono*, to put; is ſo called from his Buſineſs, being to compound things together for Medicine.

Apozem, from ἀποζέω, *deferveo*, to make hot; is a Decoction of Herbs, Roots, *&c.* together, for any medicinal Uſe.

Apparatus, is uſed variouſly, as a Diſpoſition of Inſtruments and all other things into a readineſs by a Surgeon for any Operation, often mentioned by *Scultetus* in this ſenſe: and in Mechanicks, or experimental Philoſophy, it ſignifies the Fitneſs of the Inſtruments to perform certain things with. But in general it ſtands for all that previous Knowledge of Materials, or other Things requiſite to the Study or Practice of any Art or Science.

Appetite, in a philoſophical ſenſe, is any natural Inclination, but more ſtrictly and phyſically a craving of Food to ſatisfy Hunger and Thirſt. The *Appetitus caninus*, called alſo *Pica*, and *Phagedæna*, by *Galen*; and by *Dekers* in his Notes upon *Berbette* χυνορεξία, is a diſtempered or inſatiable craving for Food, different from the *Bulimia*, which ſee.

Appoſition, is the Addition and Union of new Matter, as of the Food in Nouriſhment.

Aptitude, is a Fitneſs in any thing to the Purpoſes it is deſigned for, or for certain particular Occaſions beyond any others.

Apyrexy, from the privative Particle α, and πῦρ, *Ignis*, Fire or Heat, or πυριάσσω, *febricito*, to be feveriſh; is the Intermiſſion of feveriſh Heat.

Aquaduct: the bony Paſſage of the Drum, which reaches from the Ear to the Palate, is ſo called. But for the Veſſels ſo called, ſee *Lymphaducts.*

Aqueous Humour. See *Humours of the Eye.*

Aquila alba, a Name given by the Chymiſts to *Mercurius Dulcis.*

Araneus, is ſometimes uſed by *Galen* to expreſs a low Pulſe; and by *Hippocrates,* a flaky Urine, having Films like Cobwebs in it.

Aræometer, an Inſtrument contriv'd to determine the ſpecifick Gravities of Liquors.

Arbor Dianæ, called alſo *Arbor Philoſophorum*; a Name given to a particular Cryſtallization from the Solution of Mercury or Silver in Acids: And *Arbor Hermetis* is uſed in a Proceſs for the Revivification of Mercury. And *Helmont* gives the Name of *Arbor Vitæ* to a Medicine, by the help of which he pretended Life would again ſhoot out like a Tree.

Arboreus, from *Arbor,* a Tree, is a Term in Botany, to diſtinguiſh ſuch *Fungus*'s, or Moſſes, as grow upon Trees, from thoſe that grow on the Ground.

Arcanum, ſignifies a Secret; and therefore 'tis a Term ridiculouſly apply'd by Quacks and Impoſtors in Medicine, who generally conceal their Ignorance and Fraud under a pretence of Secrecy.

Archæus, from ἀρχαῖος, ſignifying antient, as applied in Medicine, denotes the antient Practice, concerning which in his time *Hippocrates* wrote a whole Treatiſe: And ſometimes it is uſed for that natural State which preceded any Diſeaſe. This by ſome likewiſe is uſed for

Archeus, a Term much uſed by *Helmont* to expreſs an internal efficient Cauſe of all things; which ſeems no other than the *Anima Mundi* of his Predeceſſors: and as he applies it to particular animated Beings, it differs not from the δυνάμη, or *Vis Plaſtica* of the old Philoſophers. But theſe are ſuch abſtract Terms, and convey ſuch confuſed Notions, that they rather ſerve the Purpoſe of Ignorance and Impoſture, than any uſeful and generous Knowledge.

Archiator, from ἀρχὴ, *Principium,* Chief, and ἰατρὸς, *Medicus,* a Phyſician; ſignifies chief Phyſician, ſuch as thoſe to Princes, according to the Explanation of *Hieron. Mercurialis*: but *Hoffman* applies it rather to the Head or Preſident of a College or Community of Phyſicians. Some likewiſe uſe it in the ſame Senſe as *Archæus.*

Archidoxis, is a Title given to a Book wrote by *Paracelſus* of Chymiſtry, and which *Libavius in Exam. Phil. Novæ,* ſays, looks more like Magick than Knowledge: but thoſe who underſtand it, tell us it contains ſome very remarkable Secrets; and is highly prized by the Adept.

Archnoides, Arachnoides, and *Aranea Tunica.* See *Amphibleſtroides.*

Ardent Spirits; thoſe are ſo called as are diſtilled from fermented Vegetables, and will take fire, and burn away.

Ardor Ventriculi, is a Heat at Stomach, and expreſſes the Heartburn, the ſame as *Cardialgia,* which ſee.

Ardor Urinæ, the ſame as *Dyſury,* which ſee.

Area, ſignifies the internal Capacity of any given Boundary or Limits, of what Figure or Shape ſoever. It is a Term alſo uſed by Miners for a certain Compaſs of Ore allotted for digging; and ſome phyſical Writers uſe it for a Species of the *Alopecia,* which ſee.

Areola Papillaris. Some call that Circle about the Nipple ſo.

Aregon, importing Aſſiſtance, a Name given to an officinal Unguent, which is deſcribed in many old Diſpenſatories; but the preſent Practice hath rejected it.

Argentum Vivum, the ſame as *Quickſilver*, which ſee.

Argill, is a white Earth, like Chalk, but more brittle, little uſed in Phyſick.

Ariſta, in Botany, is a long needle-like Beard, that grows out from the Husk of Corn or Graſs, called alſo the *Awn.*

Ariſtolochia, are ſuch Medicines as promote the Flux of the *Lochia.*

Arm. See *Humerus.*

Aromaticks, from ἄρωμα, ſignifying a ſweet Flavour, is now given to all Medicines of a grateful ſpicy Scent; tho antiently it was a Term given to Myrrh only, and ſince by way of Preheminence Saffron hath by ſome been called *Aroma Philoſophorum.* Thoſe Bodies are properly called Aromatics which have a fragrant or pungent Taſte or Smell.

Art, as applied to Medicine, includes all that is to be done in the Practice of its ſeveral Branches; whereas thoſe Principles or Rules which direct that Practice, are more properly called Theory or Science.

Artery, as ſome imagine, from ἀὴρ, *Aer*, the Air, and τερέω, *ſervo*, to keep: for the Antients had a Notion of their incloſing a great deal of Air; but others, who underſtand their Uſe better, derive it from ἀπὸ τȣ̃ αἰρεῖν, becauſe it continually riſes up with a Pulſe-like Motion. There are indeed three Ducts in the Body to which this Name is apply'd, *viz.* the *Aſpera Arteria*, the *Arteria Pulmonaris*, and *Vena Arterioſa*, which ſee. But all the Veſſels that convey the Blood from the Heart, more properly are hereby included, and which 'tis of that Conſequence to be well acquainted with, as deſerves a particular Deſcription here.

An Artery is a conical Canal conveying the Blood from the Heart to all parts of the Body. Each Artery is compoſed of three Coats, of which the firſt ſeems to be a Thread of fine Blood-Veſſels and Nerves, for the nouriſhing the Coats of the Artery. The ſecond is made up of circular, or rather ſpiral Fibres, of which there are more or fewer *Strata*, according to the bigneſs of the Artery. Theſe Fibres have a ſtrong Elaſticity, by which they contract themſelves with ſome force, when the Power by which they have been ſtretched out ceaſes. The third and inmoſt Coat is a fine, denſe, tranſparent Membrane, which keeps the Blood within its Canal, which otherwiſe, upon the Dilatation of an Artery, would eaſily ſeparate the ſpiral Fibres from one another. As the Arteries grow ſmaller, theſe Coats grow thinner, and the Coats of the Veins ſeem only to be Continuations of the capillary Arteries.

The Pulſe is thus accounted for: When the left Ventricle of the Heart contracts, and throws its Blood into the great Artery, the Blood in the Artery is not only thruſt forward towards the Extremities, but the Channel of the Artery is likewiſe dilated; becauſe Fluids, when they are preſs'd, preſs again to all ſides, and their Preſſure is always perpendicular to the ſides of the containing Veſſels; but the Coats of the Artery by any ſmall Impetus may be diſtended: therefore upon the Contraction of the Heart, the Blood from the left Ventricle will not only preſs the Blood in the Artery forwards, but both together will diſtend the ſides of the Artery. When the Impetus of the Blood againſt the ſides of the Artery ceaſes, that is, when the left Ventricle ceaſes to contract, then the ſpiral Fibres of the Artery, by their natural Elaſticity,

city, return again to their former State, and contract the Channel of the Artery, till it is again dilated by the Syſtole of the Heart. This Diaſtole of the Artery is called its Pulſe; and the time the ſpiral Fibres are returning to their natural State, is the diſtance between two Pulſes. This Pulſe is in all the Arteries of the Body at the ſame time: for while the Blood is thruſt out of the Heart into the Artery, the Artery being full, the Blood muſt move in all the Arteries at the ſame time; and becauſe the Arteries are conical, and the Blood moves from the Baſis of the Cone to the Apex, therefore the Blood muſt ſtrike againſt the ſides of the Veſſels, and conſequently every point of the Artery muſt be dilated at the ſame time that the Blood is thrown out of the left Ventricle of the Heart; and as ſoon as the Elaſticity of the ſpiral Fibres can overcome the Impetus of the Blood, the Arteries are again contracted. Thus two Cauſes operating alternately, the Heart, and Fibres of the Arteries, keep the Blood in a continual Motion.

The chief Diſtribution of the Arteries is into the *Aorta aſcendens*, and the *Aorta deſcendens*, from which they are branched into all the ſeveral Parts of the Body after the following manner. The *Aorta* coming from the left Ventricle of the Heart, ſends out two Branches called *Coronariæ* to the Heart, before it pierces the *Pericardium*; but after it hath pierced it, it aſcends a little, and then it crooks forward, and forms the *Aorta deſcendens*. From the upper ſide of this Crook it ſends out three Branches, two on the left ſide, which are one *Subclavian*, and one *Carotide*; and one on the right ſide, which is the right *Subclavian*, from which immediately ariſes the right *Carotide*. The *Arteriæ Subclaviæ* on each ſide ſend out the *Mediaſtana*, the *Mammoria*, the *Cervicalis*, or *Vertebralis*, and a Branch which goes to the Muſcles of the Neck, of the Breaſt, and to the *Glandulæ Thyroides*. After the *Subclavia* has paſſed thro' the *Muſculus Scalenus*, it is called *Axillaris*. The *Arteriæ Carotides*, as they aſcend on each ſide the *Trachæa Arteria*, give ſome ſmall Branches thereunto to the *Larynx*, to the *Glandula Thyroides*, and then they ſend out each four conſiderable Branches. The firſt goes to the Tongue, to the Muſcles of the *Os Hyoides*, and to the *Pharynx*. The 2d divides into two Branches, of which the firſt loſes it ſelf in the Muſcles *Milohyoides* and *Digaſtrici*; and the ſecond goes along the Baſis of the lower Jaw, and is loſt in the Muſcles of the Lips. The third Branch divides at the Angle of the lower Jaw into two Branches; one enters into the lower Jaw, and the other makes the *Arteria temporalis*. The 4th Branch goes to the Muſcles on the hind part of the Neck, and to the Skin of the hind Head. The *Carotide* then paſſes thro' the Canal in the *Os Petroſum*, gives ſome Branches to the *Dura Mater*, joins with the *Cervicalis*, ſends out Branches to the *Glandula Pituitaria*, *Rete Mirabile*, *Plexus Choroides*; then runs thro' all the Circumvolutions of the *Cerebrum* and *Cerebellum*, and loſes its capillary Branches in their *Carotidal* Subſtance. The *Axillary* having pierced the *Scalenum*, gives ſome little Branches to the neareſt Muſcles; it ſends out the *Thoracica* ſuperior and inferior, the *Scapularis*, and then gives a Branch which paſſes under the Head of the *Humerus* into the *Muſculus longus* and *brevis* of the Arm. The Trunk of the

Axillaris goes down the inſide of the Arm, giving Branches by the way to the Muſcles that lie upon the *Humerus.* Above the Elbow it ſends out a Branch which is ſpread upon the internal *Condyle* of the *Humerus.* At the bending of the Elbow this ſame Trunk divides into two Branches, the one external, and the other internal; the external runs along the Radius,it caſts out a Branch which goes to the *Supinator,* and aſcends to the *Brachialis internus*; in the reſt of its Courſe down to the Wriſts, it gives Branches to the *Longus Rotundus,* and Benders of the Fingers, Wriſt and Thumb. Being come to the Wriſt, it ſends out a Branch which goes to the beginning of the Tenar, then it paſſes under the Tendon of the *Flexor Pollicis*; it gives a Branch to the external part of the Hand, and paſſing under the Tendons of the Muſcles, its Branches run along each ſide of the Thumb and Fore-finger. The internal Branch goes down along the *Cubitus* to the Wriſt, and is diſtributed in like manner to each ſide of the Middle-finger and Little-finger.

The *Aorta deſcendens* ſends out firſt the *Bronchialis,* which accompanies all the Branches of the *Bronchia*; as it deſcends along the *Vertebræ* of the *Thorax,* it ſends out on each ſide the intercoſtal Arteries to the *Diaphragm*; it gives the *Phrenica,* and the *Cæliaca* is the firſt it ſends out when it enters the *Abdomen.* The *Cæliaca* divides into two Branches, the one on the right, the other on the left, of which the firſt gives the *Gaſtrica dextra* which goes to the Stomach, the *Ciſtica* to the Gall-bladder, the *Epiplois dextra* to the *Omentum,* the *Inteſtinalis* to the Gut *Duodenum,* and to a part of the *Jejunum,* the *Gaſtro-Epiplois* to the Stomach, to the *Omentum,* and ſome Branches to the Liver, which enters the *Capſula Communis,* to accompany the Branches of the *Vena Porta.* The left Branches of the *Cæliaca* give the *Gaſtrica dextra,* which is alſo ſpread on the Stomach, the *Epiplois ſiniſtra* to the *Omentum,* and the *Splenica* to the Subſtance of the Spleen: Then the *Aorta deſcendens* ſends out the *Meſenterica ſuperior,* the *Renales Adipoſæ,* which go to the *Renales Glandulæ,* or Fat about the Reins, the Emulgents to the Reins, the *Spermaticæ* to the Teſticles, the *Lumboris interior* to the Muſcles of the Loins, the *Meſenterica inferior,*which with the *ſuperior,* is diſtributed thro' the Meſentery, and which accompanies all the Branches of the *Venæ Meſeraicæ.* When the *Aorta* is come to the *Os Sacrum,* it divides into two great Branches; and from the Angle they make, ſprings out a ſmall Artery called *Sacra,* becauſe it ſpreads upon the *Os Sacrum.* The Iliac Arteries divide again into the external and internal *Iliac.* From the internal *Iliac* ariſes the *Hypogaſtrica,* which is diſtributed to the Bladder, to the *Rectum,* to the outer and inner ſide of the *Matrix, Vagina, Veſiculæ ſeminales, Proſtatæ* and *Penis, Os Sacrum,* and all the Parts contained in the *Pelvis* or Baſon: and then it gives two conſiderable Branches which paſs out of the lower Belly; the firſt goes under the *Pyriformis,* and is diſtributed to the Muſcles called *Glutæi*; the ſecond, which is lower than the firſt, gives alſo two Branches pretty big, of which the firſt goes to the *Obturatores,* the ſecond pierces the Cavity of the *Abdomen,* under the *Pyriformis,* and loſes it ſelf by ſeveral Branches in the *Glutæus major.* As ſoon as the external *Iliac* leaves the Cavity of the *Abdomen*, it ſends out the *Epigaſtrica*, which runs up the inſide the *Muſculus rectus*, and a little below that, the *Pudenda*, which goes to the Privities: Then it is called *Cruralis*, which ſends out three conſiderable Branches; the firſt is called *Muſcula*, which gives ſeveral Branches; the firſt paſſes between the Muſcles called *Iliacus* and *Peclineus*, and loſes it ſelf in the third head of the *Triceps* in the *Semimembranoſus*, or *Seminervoſus*, in the beginning of the *Biceps*, in the *Quadrigemini*, and in the Cavity of the greater *Trochanter*. The ſecond, third, and fourth go to ſeveral Parts of the *Triceps* and *Gracilis poſterior*; then the Trunk of the *Muſcula* goes under the firſt of the *Triceps*, and divides into three Branches more. The firſt having paſſed the third of the *Triceps*, is loſt in the *Semimembranoſus*. The ſecond paſſes under the *Femur* to the *Vaſtus externus*. The third goes a little lower, caſts Branches to the Tendon of the third of the *Triceps*; it loſes it ſelf at the end of the *Seminervoſus*, and at the end of the great Head of the *Biceps*. The ſecond conſiderable Branch of the Trunk of the *Crural* goes to the external part of the Thigh, paſſes under the *Sartorius*, under the *Gracilis rectus*; it caſts ſome Branches to the end of the *Iliacus*, to the beginning of the *Gracilis rectus*, to the *Vaſtus externus*, *Cruralis*, *Membranoſus*, and fore-part of the *Glutæus minor*. The third riſes almoſt from the ſame part of the *Crural*, and loſes itſelf in the middle of the *Gracilis rectus Cruralis*, and *Vaſtus externus*. The *Crural* having ſent out theſe three Branches, gives ſeveral more to the *Sartorius*, the *Gracilis poſterior*, but the greateſt goes to the *Vaſtus externus*. As the *Crural* deſcends, it ſinks deeper in the hinder part of the Thigh, paſſing thro' the Tendons of the *Triceps*; being come to the Ham, the firſt Branch it ſends out is ſpread on the hinder part of the Thigh-bone, and it goes to the little Head of the *Biceps*; then it caſts out ſeveral other Branches which loſe themſelves in the Fat, and in the Extremities of the Muſcles behind the *Femur*. Under the Ham it ſends out two *Poplitæi*, which go round the Knee, the one on the inſide, the other on the outſide. It caſts out a little lower ſeveral other Branches, of which ſome go to the beginning of the *Gemini*, of the *Soleus Plantaris*, and *Poplitæus*, and the reſt ſurround the *Tibia* on all ſides. Then it divides into two Branches, of which the firſt paſſes thro' the Membrane which joins the *Tibia* and *Pirone* together, upon which it continues its way, giving Branches to the *Tibiæus externus*, and to the *Extenſores Digitorum*. The ſecond Branch divides into two more external and internal; the external, after it hath given Branches to the *Soleus*, to the *Peronæus poſterior*, and to the *Flexor Pollicis*, pierces the Membrane between the *Tibia* and *Pirone*, and riſes upon the external Ankle, to ſpread it ſelf upon the upper part of the Foot. The internal, as it deſcends, gives Branches to the *Soleus*, to the *Flexores Digitorum*, to the *Tibiæus poſterior*; then it paſſes by the Cavity of the *Pirone*, where it divides into two Branches, of which one paſſes under the *Tenar* to the great Toe, the other paſſes between the *Muſculus brevis* and the *Hypotenar*, and is diſtributed into the other Toes.

And this is the Order and Diſtribution of the principal Arteries in the Body, each of which are ſubdivided into others, and theſe again into others, till at laſt the whole

Body is over-ſpread with moſt minute Capillary Arteries, concerning which there are two things neceſſary to remark: Firſt, that the Branches which go off at any ſmall diſtance from the Trunk of an Artery, unite their Canals into one Trunk again, whoſe Branches likewiſe communicate with one another, and with others, as before: by this means, when any ſmall Artery is obſtructed, the Blood is brought by the communicating Branches below the Obſtruction, which muſt otherwiſe have been deprived of their Nouriſhment. Theſe Inoſculations are every where apparent, but chiefly in the *Uterus*, *Meſentery*, and Brain: It is the ſame thing with the Veins. The other thing is, That the ſum of the Orifices of the Branches of any Artery is greater than the Orifices from the Trunk from which they came; upon which account the Velocity of the Blood is greatly diminiſhed, as it removes further from the Heart. The Proportions the Primary Branches bear to one another, and the *Aorta* to the *Cava* and Pulmonary Artery, are as follow:

The *Aorta*	100000
Right ſubclavian Artery	20101.9
Left *Carotide*	10016
Left Axillary	14456.7
Bronchial Artery	434.2
24 Intercoſtals, each 434.2	10420.8
Cæliack	4830.3
Meſenterick	7307.8
Right Emulgent	4639
Left Emulgent	4639
Inferiour Meſenterick	3015
Six Lumbals, each 434.2	2605.2
Left Iliack	9739.8
Right Iliack	10535
Sum of all the Branches	102740.7
The Pulmonary Artery	139291.8
The aſcending Cava	92373
The deſcending Cava	92373

To the Action of the Arteries in the human Body are owing the Circulation of the Blood, its heat, red colour, fluidity, aſſimilation of the Seed, the converſion of fix'd Salts into ſuch as are volatile, and the Performance of all the Secretions. To ſhew all theſe Particulars in their full extent, would be to give a curious and uſeful Hiſtory of the Arteries: And they may readily enough be drawn from the Nature and Structure of thoſe wonderful Canals, with the help of our preſent Philoſophy and Chymiſtry.

Arteriotomy, from ἀρτηρία, an Artery, and τέμνω, *ſeco*, to cut, is letting blood by the Arteries in ſome extraordinary caſes; but the hazard makes it very rarely practiſed.

Arthritis, from ἄρθρον, *Articulus*, a Joint: Any Diſtemper is properly enough thus called that affects the Joints, but the Gout moſt particularly; and this hath different Names as it falls upon different Parts, amongſt ſome Authors more nice in words than things: as *Podagra* when in the Feet, *Chiragra* when in the Hands, and ſo of other Parts. From the ſame Derivation,

Arthrodia, is often uſed for any Articulation in general; but ſometimes ſignifies the ſame with *Arthroſis*.

Arthroſis, is uſed to ſignify that kind of Articulation, when a round Head of a Bone is receiv'd into a round hollow of another; ſuch as that of the *Femur*, with the *Iſchium*, and as the *Radius* receives the *Humerus*.

Articulation: This is peculiar to the Bones, and diſtinguiſhed into three ſorts, 1. *Diarthroſis*, 2. *Syncondroſis*, and, 3. *Synarthroſis*. Of the firſt there are two ſorts, the *Enarthroſis*, or *Arthrodia*, and *Ginglymus*. The firſt is when a round Head of a Bone is received into a round Cavity of another, ſuch as the Articulation of the *Femur* with the *Iſchium*; and this is called the Ball and Socket. The Property of this joining is, that the parts may move equally to any ſide. The *Ginglymus* is deſcribed under that Word, which ſee. The ſecond, *Syncondroſis*, is when the Extremities of two Bones are joined to one another by means of an intervening Cartilage. Thus the Bodies of the *Vertebræ*, and the Extremities of the Ribs and *Sternum*, are joined together; where, tho the Motion of all is manifeſt, yet that of any two is hardly diſcernible. The third, *Synarthroſis*, is alſo of two ſorts, the *Sutura* and *Gomphoſis*. The *Sutura* is when two Bones are mutually indented with one another; the Teeth by which they are indented are of various Figures, ſometimes like the Teeth of a Saw; ſometimes broad at their Extremities, and narrow at their Baſe; ſometimes the ſides of the Teeth are likewiſe indented, as frequently in the *Sutura Lambdoidalis*. This ſort of Articulation is called Dove-tailing, and is uſed by Joiners in Drawers, &c. All the Bones of the *Cranium* and upper Jaw, as alſo the *Epiphyſes* of the Bones, are joined by this Articulation. *Gomphoſis* is when one Bone is joined to another, as a Pin or Nail is in a piece of Wood; and the Teeth only are articulated this way in their Sockets. To theſe may be added a third kind of *Synarthroſis*, very different from any of the former; which is, when a Bone has a long and narrow Channel which receives the Edge or Proceſs of another Bone; and thus the *Vomer* is joined to the *Os Sphænoides* and *Septum Narium*: This is called ploughing. Theſe comprehend all the different Articulations of Bones in a human Body, and what other Authors mention is to no purpoſe. The Extremities of all the Bones which are articulated to one another with a manifeſt Motion, are bound together by membranous Ligaments, which riſe from the Conjunction of the *Epiphyſes* with the Bone; and paſſing over the Articulation, are inſerted at the ſame place in the other Bone. Thus they form a Bag which embraces all that part of the Extremities of the Bones which play upon one another; and in this Bag is contained a Mucilage for the eaſier Motion of the Joint. This is ſeparated by Glands which lie in Fat on the inſide of the Ligaments Thoſe articulated by *Ginglymus* have the Ligaments much ſtronger than they are either behind or before ; that the Protuberances may be kept to play in their Cavities, and to prevent the Bones from ſlipping out of Joint.

Arytenoides, from ἀρύω, *haurio*, to drink, and εἶδος, *Forma*, Shape. See *Larynx.*

Arytenoideus, is a Muſcle to contract the preceding Cartilages, from the ſame Derivation.

Arythmus, from the privative Particle α, and ῥυθμὸς, *Modulus*, or *Pulſus*, is a ſinking of the Pulſe ſo that it cannot be felt, as in a Swoon : Or it is rather uſed for any Irregularity of the Pulſe, which ſome Authors diſtinguiſh into three kinds, but not worth notice here.

Aſcarides, from ἀσκέω, *moveo*, to move ; are little Worms in the *Rectum*, ſo called from their continual troubleſome Motion, cauſing an intolerable Itching.

Aſcites, a particular Species of a Dropſy, affecting chiefly the lower Belly. *Hippocrates* calls it in a particular manner the *watry Dropſy*, and *Galen* charges it upon cold Cauſes. By the beſt practical Writers it is defined a Swelling of the lower Belly, and depending Parts, from an Extravaſation and Collection of Water broke out of its proper Veſſels by means of ſome Obſtruction or Weakneſs of the Glands and *Viſcera*. This Caſe, when certain and inveterate, is univerſally allow'd to admit of no Cure but by means of the Manual Operation, or Tapping ; tho there want not Arguments to ſhew that the Fluid, which is here ſuppos'd extravaſated, ſtill continues to circulate in the Body.

Aſellus, has been applied to many things in Medicine wherein it is diſcontinued, and is now to be met with only to ſignify the ſame as *Millepedes.*

Aſpera Arteria, called alſo *Trachea;* is a Canal ſituated in the forepart of the Neck, before the *OEſophagus*, whoſe upper End is called *Larynx* ; from whence it deſcends to the fourth *Vertebra* of the Back, where it divides and enters the Lungs. This Canal is made of annular Cartilages, which are at ſmall and equal Diſtances from one another. Theſe Cartilages grow ſmaller and ſmaller as they approach the Lungs ; and thoſe of the *Bronchi* are ſo cloſe to one another, that, in Expiration, the ſecond enters within the firſt, and the third within the ſecond, and the following always enters the preceding. Betwixt the *Larynx* and the Lungs theſe Cartilages make not complete Rings ; but their hinder part, which is contiguous to the *OEſophagus,* is membranous, that they may the better contract and dilate, and give way to the Food as it paſſes down the Gullet. But the Cartilages of the *Bronchi* are completely annular ; yet their Capillary Branches have no Cartilages, but inſtead of them ſmall circular Ligaments, which are at pretty large diſtances from one another. The Uſe of the Cartilages is to keep the Paſſage for the Air open ; but in the Capillary *Bronchi* they would hinder the ſubſiding of the Veſicles. Theſe Cartilages are tied together by two Membranes, external and internal ; the external is compoſed of circular Fibres, and covers the whole *Trachea* externally ; the internal is of an exquiſite Senſe, and covers the Cartilages internally ; it is compoſed of three diſtinct Membranes, the firſt is woven of two Orders of Fibres; thoſe of the firſt Order are longitudinal, for the ſhortning the *Trachea*; they make the Cartilages approach and enter one another: The other Order is of circular Fibres, for the contracting the Cartilages. When theſe two Orders of Fibres act, they help, with the external Membrane, in Expiration, in coughing, and in altering the Tone of the Voice. The ſecond Membrane is altogether glandulous, and the Excretory Veſſels of theſe Glands open in the Cavity of the *Trachea*; they ſeparate a Liquor for moiſtning the Cavity, and for defending it from the Acrimony of the Air. The third and laſt, is a Net of Veins, Nerves, and Arteries; the Veins are Branches of the *Vena Cava*; the Nerves of the *Recurrent*; and the Arteries Sprigs of the *Carotides*.

Aſperity, is that Roughneſs which ariſes from the unequal Surfaces of any Bodies.

Aſphyxia, is uſed by ſome antient Writers for a Deficiency or Privation of the Pulſe in ſome Caſes, where it ſtops for ſome time.

Aſſidentia Signa, are ſuch Symptoms, according to *Galen*, as are ſometimes preſent to a Diſeaſe, but not always ſo; which latter are called *Pathognomonic*.

Aſſiduus, is by ſome, particularly *Fernelius*, uſed for a *continuent* Fever, in oppoſition to *intermittent*.

Aſſimilation. Some uſe it in the ſame Senſe as *Nutrition*, which therefore ſee; and alſo *Accretion*: but many uſe it in a more general ſenſe for a Reduction of two Bodies or two Portions of Matter into like Quantities, that before were different.

Aſſimilation, commonly expreſſes the Union of Aliments to the Body, in Nouriſhment; but in a more general ſenſe ſignifies the Reduction of any one Body to the Nature of another.

Aſthma, from ἀσθμαζω, *anhelo*, to breathe with difficulty; is a frequent, difficult, and ſhort Reſpiration, join'd with an hiſſing Sound and a Cough, eſpecially in the Night-time, and when the Body is in a prone Poſture; becauſe then the Contents of the lower Belly bear ſo againſt the Diaphragm, as to leſſen the Capacity of the Breaſt, whereby the Lungs have leſs room to move.

Aſtragalus, is a Bone of the Heel with a convex Head, and is articulated with the two Fociles of the Leg by *Ginglymus*. See *Talus*.

Aſtringents, are thoſe Medicines which are binding; and they are either ſuch as act by the Aſperity of their Particles, whereby they corrugate the Membranes, and make them draw up cloſer; or ſuch as thicken the Fluids, whereby they cannot run off ſo faſt as before.

Ataxia, is frequently uſed by the Antients, and ſome Moderns, to expreſs an Irregularity in a Diſeaſe, or a Diſtemper out of the common Courſe of Symptoms.

Athanaſia, ſignifying immortal, hath been a Term affectedly given to ſome Medicines to expreſs their extraordinary Efficacy; as the *Athanaſia magna* of *Nicolaus*, &c.

Athanor, is a digeſting Furnace, contrived to keep a conſtant Heat for ſome time together, ſo that it may be augmented or diminiſhed at pleaſure, by opening or ſhutting ſome Apertures made on purpoſe with Sliders over them, called Regiſters.

Atheroma, from ἀθαρα, which ſignifies a kind of *Poultice*, is a Tumour of a pappy Conſiſtence, without Pain, or diſcoloration of the Skin.

Athletick, ſignifies a hale vigorous Conſtitution.

Atlas, the firſt *Vertebra* under the Head is ſo called from the manner it ſupports it. See *Spine* and *Vertebræ*.

Atmoſphere, is the lower Part of the Region of the Air, or *Æther*, with which the Earth is encompaſſed all around. Concerning the Preſſure, and Influences of which upon human Bodies, many Authors may be conſulted, but particularly Dr. *Mead's Imperium Solis ac Lunæ*, &c. The ſame Term likewiſe is uſed to ſignify the Effluvia, or Steams from any particular Bodies, whoſe Volatility and Activity of Parts emits ſomewhat all round, from ἄτμος, *Halitus*, a Vapour, and σφαῖρα, *Sphera*, a Globe.

Atom, from the privative Particle α, and τέμνω, *ſeco*, to cut, (that is, what cannot be further divided) is ſuch a ſmall Particle as cannot be phyſically divided: and theſe are the firſt Rudiments, or the component Parts of all Bodies.

Atony, from the privative Particle α, and τείνω, *tendo*, to ſtretch; is a Relaxation of the Solids of a human Body, which occaſions loſs of Strength, Faintings, *&c.*

Atrabilarious Humour, may very well be underſtood of the thick part of the Blood, deprived of its due Proportion of Serum, or finer and more volatile Parts; whereby it is rendred groſs, black, unctuous, and earthy. The ſame may not improperly be called by the Name of *Succus Melancholicus*, which we meet with in ſome Authors.

Atra Bilis. See *Aduſt*.

Atrophy, from the privative Particle α, and τρέφω, *nutrio*, to nouriſh; is when the Body inſenſibly waſtes, as in a Conſumption.

Attenuation, is making a Body or Fluid thinner than it was before; and attenuating Medicines are ſuch as dilute or deterge, or both.

Attollens Nares, is a Muſcle that ariſes from the Ends of the two upper Bones of the Noſe, and is inſerted into the upper Part of the *Alæ*, pulling the Noſe upwards when contracted; from *Attollo*, to lift up.

Attollens Oculi, from the ſame Derivation: It is likewiſe called *Superbus*, which ſignifies proud, becauſe it lies upon the upper Part of the Globe, and pulls up the Eye, which gives an Air of Haughtineſs.

Attraction, from *ad*, to, and *traho*, to draw. This is a Property in Matter, by which are accounted for all the grand Appearances in the inanimate World, and which our own Countryman, Sir *Iſaac Newton*, firſt taught us to reaſon about with certainty. The Subſtance of what has been digeſted into Order, to ſupport many phyſical Reaſonings, may be apprehended from the following Propoſitions:

Prop. 1. The Quantity, or Force, of Attraction in all Bodies is exactly proportional to the Quantity of Matter in the attracting Body, as being in reality nothing but the Reſult or Sum of the united Forces of all thoſe ſingle Particles of which it is compoſed; or, in other words, Attraction in all Bodies is, *cæteris paribus*, as their Solidities: hence,

Corol. 1. At equal diſtances the Attractions of homogeneal Spheres will be as their Magnitudes: and,

Corol. 2. At any diſtance whatever, the Attraction is as the Sphere divided by the Square of the Diſtance.

Prop. 2. The attractive Force is infinitely greater at the Contact, or extremely near it, than at any determinate Diſtance.

The attractive Force exerts it ſelf only where the Tendency of a Particle another way is over-power'd by its Proximity to that into whoſe Contact it is ſuppoſed to be drawn: For as this Property is univerſal, and every part of Matter does draw, and is drawn by every other part of Matter, within one another's Spheres of Attraction; ſo one cannot influence another at any diſtance, but muſt neceſſarily be very near it; and ſo much the nearer, in proportion to its Smallneſs: ſo that upon a double account, two Particles cannot influence one another by their Attractions, unleſs very near; one from their predominant Inclinations another way, and the other from the Minuteneſs of their Spheres of Activity; inſomuch that out of that reach, could they be ſuppoſed under no other Tendency, they would never come together.

Prop. 3. A large Particle attracts not more ſtrongly than a ſmall one of the ſame Solidity; but diverſity of Figure cauſes different Degrees of Attraction in Particles that are otherwiſe the ſame.

This is almoſt a Conſequence from the former Propoſition; for as this attractive Force can only act on ſuch Particles as are extremely near, the remoteſt Parts in a large Particle can conduce nothing thereto. And for the ſame Reaſon this Power varies, according as Matter is in Cones, Cylinders, Cubes, or Spheres; and a ſpherical Particle, *cæteris paribus*, has the ſtrongeſt Attraction; as there is more Solidity under ſuch a Surface, than in any other Figure.

Prop. 4. If Particles ſwimming in a Fluid attract one another more ſtrongly than they do the Particles of the Fluid, the Force by which they come to each other, will be as the Exceſs of their mutual Attractions to their Attractions of the Fluid.

Such Parts of the Fluid as interpoſe between the attracting Particles will be thruſt or preſs'd upon by ſuch their Inclinations to each other; and therefore according to the Nature of Fluidity, the Parts of the Fluid will be drove out of their Places by ſuch exceſs of Preſſure, and thereby the attracting Particles will join.

Prop. 5. If Particles ſwimming in a Fluid are more attracted by the Fluid than by one another, they will recede from one another with a Force that will be equal to the Difference of their mutual Attractions, and the Attraction of the Fluid.

For the ambient Particles of the Fluid attracting them more ſtrongly than they do each other, they will by ſuch exceſs of Force be drawn from one another into Contact and Coheſion with the Particles of the Fluid. Upon the two foregoing depends the whole Theory of Cryſtallization and Solution.

Prop. 6. The Force by which Particles attracting one another cohere, is, *cæteris paribus*, in proportion to their Contacts.

For thoſe Parts not in Contact, conduce nothing, or extremely little, to the Force of Coheſion; and a much greater Power is required to ſeparate two Particles which cohere in two Points, than two Particles which cohere only in one Point: For which Reaſon it is, that we find two poliſhed Marbles adhere more ſtrongly than any other two Bodies of equal Dimenſions, which are not ſo ſolid, but have more Pores and Interſtices between their Parts, and which will not receive ſo good a Poliſh, by which their Parts are brought into ſo cloſe a Contact with one another. And for the ſame

Reaſon it is, that many light Subſtances have ſuch ſtrong Coheſions and Tenacities; for that whereby Particles of the leaſt Matter in proportion to their Surfaces, are ſpecifically lighteſt, alſo occaſions their ſtrongeſt Coheſions, by being capable of more Contact, than Particles of more Solidity under leſs Surface.

Prop. 7. If the attracting Particles are elaſtick, they muſt neceſſarily produce an inteſtine Motion greater or leſs, according to the Degrees of their Elaſticity and attractive Forces.

Becauſe upon the Occurſions which their attractive Powers draw them into, they will fly off from one another again with the ſame Degree of Velocity that they met together with, abating for the Reſiſtance of the Medium; but when they approach other Particles in their Reſilition, their Velocity muſt increaſe, becauſe they are afreſh attracted: and therefore meeting a ſecond time, they will recede with a greater Velocity than they did at their firſt Concurſion; which will continue an inteſtine Motion, as are their attractive Powers and Elaſticities.

Prop. 8. Particles attracting one another in a Fluid, moving either with a ſwift or a ſlow progreſſive Motion, attract one another juſt the ſame as if the Fluid was at reſt, if all the Particles move equally; but an unequal Velocity of the Particles will interrupt their Attractions.

All the Parts of the Fluid moving on with equal Velocity, leave the attracting Particles in the ſame Condition, as if the whole Fluid was at reſt; but ſome parts moving faſter than others, muſt frequently change their Poſitions, and thereby diſturb their Attractions. Thus it is that Salts will not cryſtallize, till the Water in which they are diſſolved is near or quite cold, and the inteſtine Motion of its Particles, cauſed by Heat, is quieted. See *Particles.*

Attrahents. See *Drawers.*

Attrition, from *ad,* and *tero,* to wear againſt; expreſſes ſuch a Motion of Bodies againſt one another, as ſtrikes off ſome ſuperficial Particles, whereby they wear leſs and leſs. It is alſo frequently uſed for the friction or rubbing ſuch ſupple Bodies one againſt another, as will not wear out, but occaſion ſome particular Determinations of the Fluids they contain; and thus various Senſations of Hunger, Pain, or Pleaſure, are occaſion'd by the Attritions of the Organs faſhioned for ſuch Impreſſions.

Auditorius. See *Nerve.*

Averni, are ſuch particular Places where ſuffocative, or poiſonous Steams riſe up from the Bowels of the Earth, of which there are various Kinds.

Aura, ſignifies an airy Exhalation, Spirit, or Vapour.

Auriculæ Cordis, the Ears of the Heart. See *Heart.*

Auripigmentum, is the yellow Arſenic, called alſo yellow Orpin.

Auris. See *Ear.*

Auriſcalpium, from *Auris,* an Ear, and *ſcalpo,* to ſcratch. An Inſtrument to pick and cleanſe the Ear from War.

Aurum Fulminans, a Preparation made by diſſolving Gold in *Aqua regia,* and precipitating it with Salt of Tartar; whence a very ſmall Quantity of it becomes capable, by a moderate Heat, of giving a Report like that of a Piſtol. 'Tis alſo ſaid to be a good Medicine for lowering a Salivation, or where too much Mercury has been uſed.

Aurum Potabile: if it would be of any ſervice in Medicine, 'twere very eaſy, by means of Chymiſtry, to reduce the Body of Gold into a Liquor, that might be taken internally, with the utmoſt ſafety; for this Preparation is far from being a Whim, as thoſe ignorant in Chymiſtry are apt to treat it.

Auſtere, is a rough aſtringent Taſte, ariſing, according to *Scribonius Largus*, from an Union of earthy and tartarous Particles, and according to the *Carteſian* Philoſophy from obtuſe-angled Figures. *Sylvius* takes a great deal of Pains to ſhew how theſe generate the Stone; and likewiſe how they do ſervice in particular Caſes.

Automaton, expreſſes properly a Machine that hath the Power of Motion within it ſelf, and which ſtands in need of no foreign Aſſiſtance.

Autopſy, from ἀυτὸς, *ipſe*, one's ſelf, and ὄψις, *Viſus*, Sight, ſignifies the ſame as ocular Demonſtration; ſeeing a thing one's ſelf.

Axilla, is the Cavity under the upper part of the Arm, called the Arm-pit.

Axillary Arteries and *Veins*, are thoſe which from the uppermoſt Part of the *Aorta* and *Cava*, paſs thro' the Arm-pits.

Axiom, is a Propoſition that is evident at firſt ſight, and cannot be made plainer by Demonſtration.

Axis, is the third *Vertebra* from the Skull. It expreſſes alſo that quieſcent right-line of a Veſſel, which is always equidiſtant from the ſides.

Azygos, is a conſiderable Branch of the *Cava*, called alſo *Vena ſine pari*, becauſe it is ſingle. It deſcends thro' the right ſide of the Cavity of the *Thorax*, and at its arrival to the eighth or ninth *Vertebra*, it begins to keep the Middle, and ſends forth on each ſide intercoſtal Branches to the Interſtices of the eight lower Ribs, and there is divided into two Branches, of which the larger deſcends to the left, betwixt the Proceſſes of the Diaphragm, and is inſerted ſometimes into the *Cava* above or below the Emulgent, but oftner into the Emulgent itſelf. The other which goes down on the right, enters the *Cava* commonly a little below the Emulgent, but is very ſeldom joined to the Emulgent it ſelf.

B.

Bacciferous, is ſaid of any Tree, Shrub or Plant, that bears Berries.

Bacculi, is uſed by ſome Writers for a particular kind of Lozenges ſhaped into little ſhort Rolls. *Hildanus* likewiſe uſes it for an Inſtrument in Surgery.

Balanus. See *Glans*.

Balbuties, is a ſtammering in the Speech.

Balneum, is a Word much uſed by Chymiſts, and generally ſignifies a Veſſel of Water, in which another is placed that requires a ſofter Heat than the naked Fire: But their *Balneum Mariæ* is a Miſtake for *Balneum Maris*, which ſignifies only a Sea or Water-bath. A Sand-heat is alſo ſometimes called *Balneum Siccum*, or *Cinereum*. But what comes more properly under this Term in

Medicine, are Baths which are made ſo by Art or Nature to waſh the Patient in. The artificial Baths have by the Antients been in great Eſteem, and contrived for many Purpoſes, eſpecially in Complaints to be relieved by Revulſion; as in inveterate Head-aches, by opening the Pores of the Feet; and alſo in cutaneous Caſes they were much in Eſteem. But the modern Practice has greateſt recourſe to the natural Baths, moſt of which abound with a Mineral Sulphur; as appears beyond all doubt from their turning Silver or Copper blackiſh. The Bath Mud, rubbed upon Silver, is what the Guides uſe to gild it with of a Gold Colour; and ſome who have been ſo curious as to boil it in Oil, affirm it to have made a good Balſam of Sulphur. The cold Baths are only the moſt convenient Springs or Reſervatories of cold Water to waſh in. They have been long baniſhed out of Medicine by a monkiſh Philoſophy and Chymiſtry: for the Antients had them in great Eſteem; and by good Luck, ſome Improvements in Phyſical Reaſoning from the Aſſiſtances of Geometry and Mechanicks, have brought them into tolerable Countenance again; and the preſent Age can produce us abundance of noble Cures performed by them. For further Acquaintance with their Medicinal Efficacies, ſee *Baths.*

Balſamella, *Balſaminum*, and *Balſamum*, are promiſcuouſly uſed to ſignify the Juice of an *Arabian* Tree called *Opobalſamum*; to which are allied many others, as thoſe of *Tolu*, *Peru*, &c. And

Balſam, ſometimes ſignifies a thick, odoriferous, penetrating Subſtance, of the conſiſtence of an Ointment, as Apoplectic Balſam, *&c.* at others Liquors drawn from Gums and reſinous Subſtances by the help of a vinous Spirit; but it is moſt commonly applied to ſuch Forms of Medicines as are oily, and of an inferior Conſiſtence to that of an Ointment: and the Chymiſts frequently give it to Preparations of ſaline Subſtances, tho very improperly.

Barometer, and *Baroſcope*, from ϐάρος, *Onus*, a Weight, and μέτρος, *Menſura*, a Meaſure; is an Inſtrument to meaſure the Weight of the incumbent Atmoſphere.

Barrel, a pretty large Cavity behind the Drum of the Ear, is ſo called. It is lined with a Membrane, in which there are ſeveral Veins and Arteries. It is always full of purulent Matter in Children; and in its Cavity there are four ſmall Bones, *viz.* the *Malleolus*, the *Incus*, the *Stapes*, and the *Os Orbiculare.*

Baſilica, from ϐασιλέω, *rego*, to govern: The middle Vein of the Arm, by way of Pre-eminence, is ſo called; it is likewiſe attributed to many Medicines for the ſame Reaſon. A Plant alſo goes by the ſame Name that is an Ingredient in the compound Briony-Water, and ſometimes called *Ocimus.* There is alſo an Ointment in the Diſpenſatories by this Name, as likewiſe an Emplaſter deſcribed by *Scribonius Largus*, and *Celſus*, given in all likelihood at firſt by the Inventers, in regard to the great Opinion they had of their Virtues.

Baſilare Os: The ſame as *Sphenoides Os*; which ſee.

Baſiogloſſum, from ϐάσις, *Fundamentum*, the Bottom, and γλῶσσα, *Lingua*, the Tongue; is a Pair of Muſcles which depreſs the Tongue, and ariſe fleſhy from the Baſis of the *Os Hyoides.*

Baſis, in Anatomy, expreſſes the upper and broader Part of the Heart, oppoſite to the *Mucro*, or Point; becauſe conſidering it as a Cone, which it reſembles in Shape, this Name is proper to it, altho by its natural Situation it is uppermoſt. The Foundation of the *Os Hyoides* hath likewiſe this Name. And it is alſo uſed ſometimes to ſignify, in a figurative Senſe, the chief Ingredient of a Compoſition.

Bathrum, ſignifies ſtrictly a Seat or reſting Place, whence Surgeons have given this Name to an Inſtrument contrived for the Eaſe and Security of luxated Joints after their Reduction. It is deſcribed very antiently, but *Scultetus* hath done it with much the moſt accuracy.

Bathmus, is uſed for ſuch Cavities of the Bones as receive the Prominences of others into them.

Battitura, ſignifies thoſe Scales or Flakes which fly off from hot Iron when firſt taken out of the Fire and beat on the Anvil; as alſo from any other Metal in like manner managed.

Baths, and *Bathing*: Of theſe there are the Natural and the Artificial; the latter are much out of preſent Uſe in Medicine; and of the former there are two kinds, the Hot and the Cold Baths.

The chief of the Hot Baths in our Country, is that famous one near *Wells* in *Somerſetſhire*; another there is of inferior Note at *Buxton*. We ſhall leave it to Naturaliſts and Philoſophers to account for the Production of thoſe Waters, and be contented with obſerving that they greatly abound with a Mineral Sulphur. From the Matter then with which this Water is impregnated, it may be pronounced ſoft, healing, ſubaſtringent, and balſamick. Subaſtringent is added, becauſe we never meet with Sulphur, even in the ſublimed Flowers, which has not ſome Portion of a Salt in its Compoſition; which when boiled in Oil, as in making the Balſamick Sulphurs, ſhoots like Needles, or the Branchings of *Sal Armoniac*: ſo that it is very improbable theſe Waters ſhould take up any Sulphur in their ſubterraneous Current, without bringing alſo ſome of that ſaline Part along with them, which they are never found without above Ground; and eſpecially when we conſider how much more it is in the Nature of Water to attract and join with ſuch Particles, than thoſe which are purely ſulphurous. Hence we are naturally directed to thoſe Caſes wherein theſe Waters, and bathing in them, muſt be of ſervice. They are like a Fomentation, which both ſupples and ſtrengthens the Parts all over the Body at once, and by gently ſhaking and undulating the Fibres, helps forward vital Motions, which are ready to be at a ſtand. In old Pains and Aches, which have been the Remains of nervous Diſtempers, and where ſome particular Part continues contracted, or has any Humours fixed upon it which it cannot diſlodge, theſe Waters pumped upon it hot from the Spring, may do more towards a Cure, than all the Compoſitions in Pharmacy. Bathing all over in theſe Springs cannot but wonderfully open that almoſt infinite Number of ſecretory Orifices upon the Surface of the Skin, and clear the cutaneous Ducts of Matter which is apt to ſtick in them; by the Aperture of which *Spiracula*, the Fluids of the whole Body have more Room to move in, and have proper Vents to reak out a great deal, which it is of ſervice to the OEconomy to get rid of. Theſe Sulphur-Fountains, likewiſe inwardly uſed, to amazement warm and ſtrengthen a decayed Stomach, eſpecially if relaxed and worn out almoſt with Luxury and Debauch. The moſt grievous Nauſea's and Vomitings, from theſe Cauſes, have been removed by them: For they both ſoften again with proper Moiſture the Fibres which have been render'd incapable to vibrate, by the Uſe of hot, burning, ſpirituous Liquors, and at the ſame time draw them into greater Tenſity: as a Chord which relaxes with over drying, fills up and ſtraitens upon the Contact and Attraction of a convenient Moiſture. The ſmall ſhare of a fine Salt, which likewiſe attends, and is as it were wrapped up in the Particles of Sulphur, cannot but contribute ſomewhat in reſtoring the Tone of ſuch decayed Parts. But beſides the Benefit theſe do to the Stomach, they alſo carry along with them into the moſt remote Receſſes, a Balſamick of Nature's own Preparation; whereby ſuch Decays in the Stomach, or in any of the *Viſcera*, from Abſceſſes, Ulcerations, or any like Cauſes, are with great Succeſs relieved; and particularly if they be of the Kidneys and urinary Paſſages, becauſe they waſh thro' them in more plenty, than where they come by the ordinary Courſe of Circulation.

Cold Baths have been long baniſhed out of Medicine by the Uſurpations of falſe Chymiſtry, and a Monkiſh Philoſophy. For the Antients had them in the greateſt eſteem; and ſome Improvements of Reaſoning in Phyſick from Geometry and Mechanicks, have brought them into tolerable good Countenance again: and the preſent Age can furniſh us with abundance of noble Cures perform'd by cold bathing, which were long attempted in vain by the moſt efficacious Medicines. There are hardly any chronick Diſeaſes but the cold Bath may be made uſe of to advantage therein, if there be nothing peculiar in the Conſtitution to forbid its uſe; which is Corpulency, and unſound *Viſcera*. In very fat Perſons the Fibres are ſo ſtuffed round, that they have not room to vibrate or contract with the ſudden Squeeze of the Bath; inſtead therefore of enforcing their Springs, and ſhaking off any unneceſſary Incumbrances, they will only be ſtrained to no purpoſe, and conſequently weakned; for wheresſoever an Effort is made to remove any thing by an elaſtick Body, if the firſt Exertion fails, every *Impetus* afterwards languiſhes, and the Spring is ſpoiled. And in unſound *Viſcera*, or where any Part is much weaker than the reſt, ſuch an additional Force will preſs the Fluids upon that Part very much to its damage, which may be either the burſting of the Veſſels, or promoting the diſcharge of ſome ill Humours upon that Part, which otherwiſe might drain elſewhere. But where nothing of this nature forbids the uſe of the cold Bath, whatſoever is to be effected by bracing the Solids, invigorating their Vibrations, and accelerating the Blood's Motion, is with certainty to be had from hence. All Diſeaſes therefore from a ſizy Blood, and a Lentor upon the animal Juices, if the Elaſticity of the Veſſels is not worn out with Age or Debauches, will find Relief from this Practice. Whatſoever Inconveniencies likewiſe proceed from a bad Tranſpiration, or when Humours are thrown upon the Surface which cannot get thro' the Skin, this Remedy will be of ſervice in; for upon Immerſion the whole nervous Syſtem is ſo ſhook, that the very Capillaries feel the Influence, and the minuteſt Paſſages are forced open by an encreaſed Velocity of the circulating Fluids, whereby the Skin will be cleared, and inſtead of entertaining groſs acrimonious Humours, tranſmit only the imperceptible Matter of Perſpiration. And this is the Reaſon why People are ſo briſk and chearful after bathing; becauſe ſo much is thus forced away by the Preſſure upon the Veſſels, and forcing out their Contents. A Perſon two foot under Water, ſuſtains a Weight of Water added to that of the Air (ſuppoſing the *Area* of his Skin to be 15 Foot) = 2280 ℔; for 2, the number of cubical Feet of Water, preſſing upon a Foot ſquare of the Skin x 76, the number of Pounds in a cubical Foot of Water = 152 x 15: the ſuppoſed number of ſquare Feet on the Surface of the Body = 2280 ℔ *Troy*.

Tho it be a generally-received Notion, that Bath-Water enters into the Body, and ſo mixes itſelf with the Blood, yet few attend to the Manner how it is poſſible. That Water hath a wonderful Power of inſinuating itſelf into any Bodies, we ſee by a number of Experiments. Deal-boards will ſwell againſt rainy Weather; the watry Particles floating in the Air, by the Preſſure of the Air upon them, are forced into the ſlender Tubes of the Wood, where they meet with no Reſiſtance, the Particles of Air being too large to enter the ſame. It is certain, however true the contrary may appear to be, that the compounding Particles of Water are leſs than thoſe of Air, ſeeing the former will paſs thro' ſeveral Bodies that the other will not. But nothing ſhews its Force greater than the faſtening a Piece of Whipcord, or a ſtrong Rope, of what Length you pleaſe, to a Hook or Staple, and at the bottom of the Cord hanging any Weight ſhort of what will break it, tho ever ſo great; for in this caſe the Weight will riſe by moiſtening the Sides of the Cord by a wet Spunge, whereby a few Particles of Water may overcome any finite Reſiſtance, if the Cord would bear it. Now ſince there is but a little Quantity of Water, and that driven into the ſides of the Cord, with a Force no greater than the Weight of a Cylinder of Air incumbent upon the Water, therefore muſt the Water act by ſome Property whereby its Force is greatly augmented, and that can be no other than that of a *Cuneus*: and the Forces of Wedges are to one another reciprocally proportional to the Angles their Edges make; but in Spheres, the greater or leſſer Degree of Curvity is to be conſidered as their Angles, when Spheres are conſider'd as Wedges; and the Degrees of Curvity in Spheres are reciprocally as their *Radii*. Now the Particles of Water being ſo infinitely ſmall, leſs by much than thoſe of Air, muſt, when acting as Wedges, have their Powers infinitely increaſed, ſo as to overcome any finite Reſiſtance. Now let the Reſiſtance the Water meets with in entring into our Bodies, be what it will; yet 'tis hard to believe it's greater than what is mentioned, which yet a little Quantity of Water will overcome. The Experiments uſually made to know the Force of Water in penetrating into membranous Subſtances, are generally with the Skins of dead Men, or Beaſts, and therefore not ſo deciſive as if made upon ſuch as are alive: The only difference then being, that in the Living, Steams or Vapours are continually raiſed into the Air thro' the Pores of the Skin in inſenſible Perſpiration; which is not ſo in thoſe that are dead: theſe Vapours, tho raiſed with a conſiderable Force, are yet unable to withſtand the *Impetus*, with which Water endeavours to inſinuate itſelf into contiguous Bodies, being ſo great as above explained. And tho the Quantity of perſpirable Matter is very great in 24 Hours, being $\frac{5}{8}$ of the Meat and Drink a Man takes in a Day; yet if we compute the Quantity that expires from any part of the Skin, in a given time, we ſhall find it too little by far to hinder the Entrance of Water into the Body when we go into a Bath. For it hath been demonſtrated, that the Matter of inſenſible Perſpiration in a Minute is the 1200th Part of the Place it comes from, that is, ℈ i. of the Skin perſpires $\frac{1}{1200}$ of a Scruple in a Minute, and conſequently ʒ i. of the Skin perſpires $\frac{1}{1200}$ of a Dram in a Minute. Now ſuppoſe a ſquare Inch of the Skin to weigh ʒ i. then a ſquare Inch perſpires $\frac{1}{1200}$ of a Dram in a Minute; but a ſquare Inch of the Skin is preſſed upon when we bathe, more than in the open Air, equal to 96 Drams. For we may conclude that our Bodies, taking one Part with another, are two Foot under Water in bathing; ſo that every ſquare Inch of the Skin muſt bear the Weight of 24 cubical Inches of Water equal to 96 Drams; for a cubical Inch of Water being ʒ iv. $\frac{384}{1728}$, throwing away the Fraction, 24 cubical Inches muſt be 96 Drams. Now ſince only $\frac{1}{1200}$ ʒ i. of Matter is perſpired thro' a ſquare Inch of the Skin in a Minute, therefore is the Elevation of the perſpirable Matter reſiſted by a Weight 115200 times greater than itſelf; for 1200 x 96 = 115200. How great then muſt be the Celerity with which the perſpirable Matter moves, if we imagine it able to raiſe a Body 115200 heavier than itſelf? Thus would it be, if the whole Quantity of perſpirable Matter evacuated in a Minute, was to exert its Force at once upon the incumbent Weight of Water; but it is ſo far from doing that, that if the Exhalation of the Steams be not continual, as the Preſſure of the Water is, yet the Intervals betwixt the times they are propelled from the Body, are very ſhort. Suppoſe 60 of them in a Minute, being about the Number of Pulſes that a healthful Man's Artery beats in the ſame time; then will the Quantity of Vapour, which exerts its Force at once againſt the incumbent Water, be ſixty times leſs than firſt aſſigned: which being multiplied by 1200 = 72000, the Number of Parts into which a Dram of perſpirable Matter is divided, one Part only of which exerts its Force againſt 96 Drams of Water in a Second: ſo that the perſpirable Matter that riſes every Second, muſt raiſe a Weight of 6912000 times greater number than it ſelf, if it reſiſt the Entrance of the incumbent Water; for 90, the Number of Drams of Water incumbent upon an Inch ſquare of the Skin, multiplied by 72000, the Number of Parts into which a Dram of perſpirable Matter is divided, = 6912000, the Difference between the Quantity of Matter perſpired in a Second, and the Quantity of Water by which its Motion is reſiſted. From the whole of which, it is beyond diſpute that Bath-Waters enter into and mix with the animal Juices in bathing. But for a further Improvement of ſuch Knowledge, we muſt leave it to thoſe who profeſſedly treat on the Subject.

Bechica, from βήττω, *tuſſio*, to cough, are Medicines to occaſion Expectoration, and eaſe Coughs that way, or by thickning a ſharp Rheum prevent the Irritations to cough.

Benedictus, ſignifying bleſſed, was a Term antiently much uſed for the milder Purges, as to *Rhubarb* and the like; and ſince by the Moderns it hath been applied not only to ſome officinal Compoſitions of like Virtue, but alſo to thoſe of different Qualities, as the *Vinum Benedictum*, which is an Emetick, and the *Aqua Benedicta* a Dryer, and ſome others.

Bezoar, from *Pa-zahar*, in the *Perſian* Language ſignifying a deſtroyer of Poiſon, whence it is applied to many things ſuppoſed to have ſuch Virtues; as *Bezoar Animal* is applied to the Liver and Heart of Vipers, *Bezoar Mineral* to a Chymical Preparation, and ſo to many other things, according to the Conceit and Pleaſure of their Contrivers: But the Epithet *Bezoartick* is now given to many things out of more lucrative Conſiderations, as it ſeems to beſpeak them of an uncommon Value, becauſe the *Bezoar* vended in the Shops bears an extravagant Price, and is inſinuated by this Term to have a ſhare in thoſe Compoſitions to which it is applied. There are two principal kinds of what is ſuppoſed natural *Bezoar*, the Oriental and Occidental, both being a ſort of Stones of a round or oval Figure, and ſaid to be found in the Maw or Stomach of particular Animals, as ſome Species of Goats, Porcupines, *&c.* The Oriental *Bezoar* is moſt eſteemed, and bears by much the higheſt Price; but thoſe who have been at moſt pains to examin it, will by no means allow that its medicinal Virtues are anſwerable to its Price. And to ſay the Truth, as 'tis now generally among the Apothecaries, reputed of little Significancy in Medicine, they have a way to counterfeit its fine tinging greeniſh Colour ſo artfully, as to impoſe upon very diſcerning Perſons.

Benign Diſeaſe, is when all the uſual Symptoms appear, in the Small-Pox, or any acute Diſeaſe, favourably, and without any Irregularities, or unexpected Changes.

Bibitorius Muſculus. See *Adductor Oculi*, which is the ſame.

Bicaudalis, *Bidloo* gives this Name to a Muſcle of the Ear.

Biceps Cubiti, from *bis*, twice, and *Caput*, a Head; becauſe it has two Heads, of which one riſes from the upper Edge of the Cavity of the Head of the *Scapula.* This Head is round and tendinous, and is encloſed in the Channel in the Head of the *Humerus.* The other ariſes from the *Proceſſus Coracoides*; it is broad and tendinous, and both unite about the Middle and Fore-Part of the Arm, and make one Belly, which is inſerted by a ſtrong and round Tendon, into the Tuberoſity, at the upper end of the *Radius.* Some of the Fibres of this Tendon form a large and thin *Aponeuroſis*, which covers all the Muſcles of the *Radius* and Fingers externally. Care ought to be taken in Blood-letting, not to cut acroſs, but according to the Length of the Fibres of this *Aponeuroſis.* This with the *Brachiæus internus*, bends the Arm.

Biceps Femoris, is a Muſcle of the Leg, with two Heads, one coming from the Tuberoſity of the *Iſchium*, and the other from the Middle of the *Linea Aſpera*; both which join together, and are inſerted by one Tendon into the ſuperior and external Part of the *Perone.* Its Uſe is to help to bend the *Tibia*; and is likewiſe employed in turning the Leg, together with the Foot and Toes, outward, when we ſit down.

Bicornis, two-horned, is the ſame as the *Extenſor Carpi*, which ſee.

Bifurcated, is ſaid by *Anatomiſts* of ſuch Veſſels and Parts as divide into two Branches.

Bile, is a thick, yellow, bitter Liquor ſeparated in the Liver, collected in the Gall-Bladder, and diſcharg'd into the lower end of the *Duodenum*, or beginning of the *Jejunum*, by the common Duct. Its Uſe is to ſheathe or blunt the Acids of the Chyle; becauſe they being entangled with its Sulphurs, thicken it ſo that it cannot be ſufficiently diluted by the *Succus Pancreaticus*, to enter the lacteal Veſſels. This appears not only from the *Analyſis* of the Bile, which yields more of a lixivious than of a volatile alkaline Salt; but likewiſe from what has been obſerved, that of the great Quantity of acid Salts amongſt the Aliments in the Stomach, there never could be found any in the Chyle after it had paſſed the *Duodenum*; becauſe ſome Chyle is almoſt always paſſing thro' the *Duodenum*, therefore it was neceſſary that the Bile likewiſe ſhould be continually poured into it from the *Ductus Hepaticus*. In a Dog, whoſe *Ductus biliaris communis* was near as big as a Man's, Dr. *Keil* ſays he has gather'd it at the rate of two Drams in one Hour. But becauſe a greater Quantity of Aliments require a greater Quantity of Bile, therefore according as the Stomach is more or leſs diſtended with Food, it preſſes out of the Gall-Bladder a proportionable Quantity of Gall to be mixed with the Chyle in the Guts. See *Liver*.

Biolychnium, from βίος, *Vita*, Life, and λύχνος, *Lumen*, Light; is a Term much uſed by ſome Writers to ſignify the ſame as *vital Flame*: but it is too figurative an Expreſſion to convey any clear and determinate Idea.

Biſmuth, is often uſed for the ſame as Marcaſite; but properly ſignifies a hard, white, brittle mineral Subſtance, of a metalline nature, found at *Miſnia*, tho ſuppoſed to be only a recrementitious Matter thrown off in the Formation of Metals, as unfit to enter their Compoſition. There are ſome however who eſteem it a Metal *ſui generis*; tho it uſually contains ſome Silver. Its medicinal Virtue is much the ſame with that of the Droſs of Lead; being ſeldom uſed but in external Forms.

Bittern, a very bitter Liquor, which drains off in the making of common Salt, and uſed in the Preparation of what goes by the name of *Epſom Salt*.

Bitumen, in general, ſignifies any fat, earthy, or mineral Subſtance, of which there are ſeveral kinds: for which ſee the *Diſpenſatory*, and the Writings of Naturaliſts.

Biventer: A Muſcle is called ſo, that is divided into two Bellies, from *bis*, twice, and *Venter*, a Belly.

Bladder. This is ſituated between the Duplicature of the *Peritonæum*, in the lower Part of the *Abdomen*, between the *Os ſacrum*, and the *Os Pubis*, above the ſtrait Gut in Men, and in the Neck of the Womb in Women. It's tied to the Navel by the *Urachus* degenerated into a Ligament, its Sides to the *Umbilical* Arteries, and its Neck to the *Inteſtinum Rectum* in Women. It is compoſed of three Coats: the firſt is a Covering of the *Peritonæum*;

the ſecond is compoſed of muſcular Fibres, which run irregularly ſeveral ways; and the third, which is full of Wrinkles for facilitating its Dilatation, is both glandulous and nervous. Its Glands ſeparate a viſcous and ſlimy Matter, which defends it from the Acrimony of the Salts in the Urine. Around its Neck there goes a ſmall Muſcle, called *Sphincter Veſicæ*, which contracts the Orifice of the Bladder, that the Urine may not run out, but when it thruſts open the Paſſage, by the Contraction of the ſecond Coat of the Bladder, which is therefore called *Detruſor Urinæ*. The Blood-Veſſels of the Bladder are Branches of the *Hypogaſtricks*. Its Nerves come from the *Intercoſtals*. And its Uſe is to be a Reſervatory of the Urine, that it may not inceſſantly run from us, as it is ſeparated in the Kidneys.

Blood. By this ſome underſtand not only the Fluid in the Veins and Arteries, but likewiſe that in the Lymphaducts, Nerves, or any other Veſſel of the Body; becauſe they are all Parts of the Blood ſeparated from it by the Force of the Heart, and many of them by the animal Mechaniſm return to it again after performance of their deſtined Task: And in this Acceptation it is taken in the Calculations of its Quantity in a human Body, and its Velocities; which becauſe it is of the utmoſt Moment to underſtand, we ſhall give it from the beſt Authors.

The Ventricles of the Heart are each capable of receiving an Ounce of Blood, or more; and therefore being full in their Diaſtole, we may ſuppoſe that they throw out at leaſt one Ounce of Blood each Syſtole. The Heart contracts about 4000 times in an Hour more or leſs, according to the different Temperaments, Sexes, and Ages; and therefore there paſs thro' the Heart every Hour, 4000 Ounces or 25 ℔. weight of Blood. Now the common Opinion is, that the whole Maſs of Blood does not exceed 25 ℔. and therefore according to this Allowance, a Quantity of Blood, equal to the whole Maſs, paſſes thro the Heart ten times in an Hour, that is, about once every ſix Minutes. If the Heart contracts eighty times in a Minute, then 25 ℔. weight of Blood paſſes thro' its Ventricles once in five Minutes, or 12 times in an Hour. Now having the Number of Pulſes in any determinate Time, the Quantity of Blood thrown out at the left Ventricle of the Heart every Pulſe, and the Diameter of the *Aorta*, it will be eaſy to find with what degree of Celerity the Blood moves thro' the *Aorta*: For *the Celerity with which a Fluid runs out at any Orifice, uniformly, and always running in the ſame Quantity, is equal to the Velocity of a Body which deſcribes a Space of the ſame Length with that of a Cylinder, whoſe Baſis is equal to the Orifice, and whoſe Magnitude is equal to the Quantity of Fluid that runs out in the ſame Time.* Now ſuppoſe the Heart contracts eighty times in a Minute, and that each Syſtole throws into the *Aorta* an Ounce of Blood, which is equal in bulk to 1,659 Inches, and conſequently 80 Ounces are 132,72 Inches; the Diameter of the *Aorta* is found to be 0,73 Parts of an Inch, and therefore its Orifice is 0,4187; by which if 132,72 be divided, the Quotient 316 Inches, or 26 Feet, gives the length of a Cylinder, or the Space thro' which the Blood moves in a Minute, ſuppoſing it were conſtantly going out of the

Heart with the ſame Velocity: but becauſe of the Diaſtole of the Heart, which is at leaſt half the time of Pulſation, there go out 80 Ounces in half a Minute, and conſequently the Velocity of Blood is double, as it moves at the rate of 52 Feet in a Minute. Now, becauſe the Sum of the Sections of the Branches of an Artery, is always greater than that of the Trunk, the Velocity of the Blood muſt conſtantly decreaſe as the Artery divides into more Branches. The exacteſt Proportion of the Branches to their Trunks, found by meaſuring an Artery of the Thigh, injected with Wax, is as 12387 to 10000; and conſequently the greateſt Velocity of the Blood will be to the leaſt as 5233 to 1; or the Blood moves 5233 ſlower in ſome capillary Arteries, than it does in the *Aorta*. The Blood is received from the Arteries into the Veins, where it ſtill moves ſlower as it returns to the Heart again. The Arteries are to the Veins as 324 to 441, and conſequently the Blood moves in the Veins above 7116 times ſlower than it does in the *Aorta*. The further the Blood moves from the Heart, the ſlower it returns; and all the Blood which at the ſame time is thrown out of the Heart, does not return at the ſame time to it again, but the Times are directly as the Spaces the Blood runs over before it returns to the Heart again, and reciprocally as the Velocities; and conſequently ſome Parts of the Blood may be ſome thouſand times longer in returning to the Heart than others; and there is no time when all the Blood can be ſaid to have only once circulated: but if there were any ſuch Time, the Quantity of Blood in the Body muſt be firſt determined, which is very difficult to do, and not yet agreed upon by hardly any two Perſons. Bleeding to death can never give the eſtimate of its true Quantity; becauſe no Animal can bleed longer than while the great Artery is full, which will be longer or ſhorter as the wounded Artery is ſmaller or greater; and the *Aorta* muſt always be the firſt Veſſel that empties. The moſt certain way, in Dr. *Keil*'s Opinion, is, by finding what Proportion the Cavities of the Veſſels, of which the whole Body is compoſed, bear to the thickneſs of the Coats. This in the Veins and Arteries may be exactly found; but in the other Veſſels we only know the Quantity of Fluid they contain, by carefully evaporating as much as poſſible. Thus the Doctor found the Fluids are to the Veſſels;

In the	Arteries	as	1,7	to 1.
	Veins		15,6	
	Muſcles		3,6	
	Nerves		3	
	Bones		1	

The leaſt of which Proportions ſhews the Liquors to be one half of the Weight of the Body; and if a Calculation be made on the Proportion of the Blood in the Arteries to their Coats, in a Body weighing 160 Pounds, there will be found 100 Pounds of Blood.

Body: This, in a ſtrictly phyſical Senſe, is every thing that is extended and ſolid, that in it ſelf has no power of Motion, and acts only by external Impulſe. And all that relates to the Knowledge of this under its various Modifications and Appearances thro' the whole Creation, is the Subject of Phyſicks, or natural Philoſophy; and ſo far particularly as concerns the OEconomy of a human Body, and the Regulations of its Diſorders, is the Province of Medicine, and gives its Profeſſors, by way of Preheminence, the Title of Phyſicians.

Bolt-head, is a bellied Glaſs that riſes up with a long cylindrical Neck, much ſlenderer than the Body, being nearly of the ſame Make with a Glaſs-egg.

Bolus, ſtrictly ſignifies a fat Earth; whence it is applied to ſeveral kinds of that Production in Medicine, particularly the *Armenian* Earth, which by way of Preheminence comes now to be underſtood by the Appellation of *Bole*, without giving it any other Diſtinction. It is alſo uſed for an extemporaneous Form of one Doſe only, and of the Conſiſtence of an Electuary.

Bones: They are made up of hard Fibres, ty'd one to another by ſmall tranſverſe Fibres, as thoſe of the Muſcles are. In a *Fœtus* they are porous, ſoft, and eaſily diſcerned. As their Pores fill with a Subſtance of their own Nature, ſo they increaſe, harden, and grow cloſe to one another; but when their Interſtices are full of ſuch Particles, then they are arrived to their utmoſt Extent, Hardneſs, and Solidity; and their Blood-veſſels being compreſſed on all ſides, bring no more Blood than what is ſufficient to ſupply the Places of their abraded Particles. They are all ſpongy and full of little Cells, or are of a conſiderable firm Thickneſs, with a large Cavity, except the Teeth; and where they are articulated to one another, they are covered with a thin and ſtrong Membrane called the *Perioſteum*. Each Bone is much bigger at its Extremities than in the Middle, that the Articulations might be firm, and the Bones not eaſily put out of Joint: but becauſe the Middle of the Bone ſhould be ſtrong, to ſuſtain its allotted Weight, and reſiſt Accidents, the Fibres are there more cloſely compacted together, ſupporting one another; and the Bone is made hollow, and conſequently not ſo eaſily broken, as it muſt have been, had it been ſolid and ſmaller: For of two Bones of equal Length, and of equal Numbers of Fibres, the Strength of the one to the Strength of the other, will be as their Diameters. See *Skeleton*.

Borax, an artificial Salt prepared from Sal-armoniac, Nitre, calcined Tartar, Sea-ſalt, and Alum, diſſolved in Urine. 'Tis principally to ſolder Metals withal; and ſometimes an uterine Ingredient in Medicine. See the *Diſpenſatory*.

Borborogmus, is uſed to expreſs thoſe Rumblings in the Bowels which ariſe from Flatulencies, and paſs from one Place to another with Noiſe.

Botany, from *βοτάνη*, *Herba*, an Herb, is that Part of the Art of Medicine, which deſcribes and enumerates the ſeveral Virtues of Plants. And he who is skilful in this, is called a

Botaniſt, a Perſon skilful in Plants.

Brachiæus externus, a Muſcle which ariſes about the middle and poſterior Part of the *Humerus*, which with the *Muſculus longus* and *brevis* joins in Fibres; and being externally tendinous, they cover all the Elbow, and are inſerted into the *Olecranium*.

Brachiæus internus, is a Muſcle that lies partly under the *Biceps*; it ariſes by a fleſhy Beginning from the middle and internal Part of the *Humerus*, and is inſerted into the upper and fore-part of the *Cubitus* by a very ſhort but ſtrong Tendon.

Brain. The whole Subſtance of the Brain is divided into two Parts:

that which lies moſtly in the fore-part of the Skull, is properly called the *Cerebrum*; and that which lies on the back-part, under the hind-part of the *Cerebrum*, is called the *Cerebellum*. Both the one and the other are contained in the *Meninges* and the *Cranium*, as in a Box or Caſe of Bone, that nothing may hurt their tender Subſtance, which is ſoft. The *Cerebrum* is of a round Figure; it is divided by the firſt Proceſs of the *Dura Mater* into the right and left ſide. Its external Surface reſembles the Turnings and Windings of the Inteſtines. In the *Cerebrum* we diſtinguiſh two different Subſtances; the external, which is of an aſhy Colour; and the internal, which is of a white Colour. Its external Subſtance is called *Subſtantia Corticalis*, or *Cinericia*; it is ſoft, glandulous, and of the colour of Aſhes. Its internal, called *Subſtantia Medullaris*, is firmer, white, and fibrous; of it the Nerves are made, and it reaches to the Extremity of the *Medulla Spinalis*, where it divides into Fibres. The external Subſtance of the Brain, by its Circumvolutions, reſembles the ſmall Guts; and in the middle of each Circumvolution, is the beginning of the Medullary Subſtance: ſo that the Cortical Subſtance is always on the external Side; and the inner *Lamina* of the *Pia Mater* is co-extended with the Cortical Subſtance, which it immediately covers every where. *Malpighi*, who has nicely examined this Cortical Subſtance, ſays, that it is nothing but a heap of little oval Glands, which receive the Capillary Branches of the Veins and Arteries which belong to the Brain, and which ſend out an infinite Number of Fibres, that all together make up the medullary Subſtance; which going out of the *Cranium*, forms the Nerves and *Medulla Spinalis* contained in the *Vertebræ*. The internal Subſtance of the right and left Side of the Brain coming to join one another, leave a Space between them, which forms the three Ventricles, or *Centrum Ovale*; the upper Part or Covering of this Space, is called the *Corpus Calloſum*; the bottom of this Space is the internal Subſtance of the two Sides of the *Cerebrum*, gathered together, as it were, in two Bundles, which are called *Crura Medullæ oblongatæ*; upon them are the Protuberances, called the *Corpora Striata*, and the *Thalami nervorum opticorum*. Theſe *Crura* uniting, make one Body, called the *Medulla oblongata*, upon which there are four Prominences, called *Nates* and *Teſtes*; and behind theſe Prominences the internal and medullary Subſtance of the *Cerebellum*, being alſo divided into two Bundles, forms upon each ſide of the *Medulla oblongata* three more Protuberances, and then it paſſes out of the *Cranium* into the *Vertebræ*, where it gets the Name of *Medulla Spinalis*. This is a general Idea of the Structure of the Brain: As for its Parts,

Below the Depth of all the Circumvolutions of the Brain, the firſt thing that appears immediately under the firſt Proceſs of the *Dura Mater*, is the *Corpus Calloſum*, or the Covering of the two lateral Ventricles, formed by the Union of the Medullary Fibres of each ſide. This being laid aſide, the two lateral Ventricles appear; they reach from the fore-part of the *Cerebrum* backwards: they are pretty broad in their hind-part, but they grow narrower towards the fore-part. They are divided into the right and left Ventricle by a thin tranſparent

Membrane, which comes from the under ſide of the *Corpus Calloſum*, and is extended to the *Fornix*, which is in the bottom of the Ventricles: this Membrane is called *Septum lucidum*; it is thought to be a Production of the *Pia Mater*, which covers all the ſides of the Ventricles.

In theſe Ventricles there are four Prominences, two in each Ventricle; the foremoſt two are called *Corpora Striata*, which are the Tips of the *Crura Medullæ oblongatæ*; they are oblong, and their Extremities come down upon the ſides of the two other Prominences; they are of a cineritious Colour without, but in their internal Subſtance there are many white Streaks, which are the medullary Subſtance mixt with the Cineritious and Glandulous. They are, as it were, tied together by a medullary Proceſs, called *Commiſſura craſſioris Nervi æmula.* The two other Prominences are called *Thalami Nervorum Opticorum*, becauſe the Optick Nerves riſe out of them; they are medullary without, but a little cineritious within; they are of an oblong Figure upon the upper-part of the *Crura Medullæ oblongatæ*; between them there is a medullary Tract, which encompaſſes them, called *Limbi poſteriores Corporum ſtriatorum:* Upon them alſo lies the *Plexus Choroides*, made of Veins, Arteries, and little Glands. This *Plexus* reaches from one lateral Ventricle to the other, paſſing under the *Fornix*, above the third Ventricle: It ſends a Branch to the fourth *Sinus* of the *Dura Mater*. In the Middle, above the *Corpora Striata* and the *Thalami Nervorum Opticorum*, there lies a thin and broad Production of the medullary Subſtance, which comes from the fore-part of the Ventricle by two Roots, and reaches to the hinder-part, where it ends by two other Protuberances, called its *Crura*, which cover a great part of the *Thal. Nerv. Opt.* This Production is called the *Fornix*, becauſe it is a covering to the third Ventricle. Under the *Fornix* there is a *Rima* between the *Crura Medullæ oblongatæ*, which is the third Ventricle, it being a little dilated in its third Part: there is a Hole that goes down to the *Glandula Pituitaria*; this Hole is the Entry to the *Infundibulum* or Funnel, ſo called becauſe of its Figure: It is a ſmall Conduit made of the medullary Subſtance, cover'd with the *Pia Mater*; it pierces the *Dura Mater* upon the Baſis of the Skull, and ſinks into the Subſtance of the *Glandula Pituitaria*, which is ſituated in the *Cella Turcica*, cloſely covered with the *Pia Mater* and *Dura Mater*; it is of a harder Subſtance than the other Glands of the Body; it receives the End of the *Infundibulum*, which carries a Liquor from the Ventricles into this Gland, which is ſurrounded by the *Rete Mirabile*, or a *Plexus* of ſome Branches of the *Carotidal* and *Cervical* Arteries, which break the Impetus of the Blood, and abate the Velocity as it paſſes thro' the tender Subſtance of the Brain. In the hinder-part of the third Ventricle there is another ſmall Hole called *Anus*, which leads into the fourth Ventricle in the *Cerebellum*. In the upper-part of this Hole is ſituated the *Glandula Pinealis*, about the bigneſs of a Pea; it is compoſed of the ſame Subſtance as the reſt of the Brain, and for the ſame Uſe. It is tied by ſome Fibres to the *Nates*, which are two Prominences of the *Medulla oblongata*, ſituated above the fore-part of that Conduit, which leads from the *Anus* to the fourth

Ventricle; they are of an oval Figure, pretty big, and immediately behind them are two other Prominences of the ſame Figure and Subſtance, called *Teſtes*, both covered with a Net of Blood-veſſels. There is a ſmall tranſverſe medullary Protuberance behind the *Teſtes*, from which the Pathetic Nerves ariſe. The Conduit which reaches from the *Anus* to the fourth Ventricle, is in that part of the *Medulla oblongata*, which is betwixt the *Cerebrum* and the *Cerebellum*, called the *Iſthmus*. The upper-part or Cover of this Conduit, which is betwixt the *Teſtes* and the foremoſt vermicular Proceſs of the *Cerebellum*, to which two it is tied at its two Ends, and to the Proceſſes which come from the *Cerebellum* to the *Teſtes* at its ſides, is called *Valvula major*; 'tis of a medullary Subſtance; its uſe is to keep the *Lympha* from falling out above the Nerves in the Baſis of the Skull. Theſe are all the Parts of the *Cerebrum*.

The *Cerebellum*, which is much leſs, is alſo compoſed of a cortical and a medullary Subſtance; its Superficies makes not Turnings and Windings as that of the *Cerebrum*; but its Foldings are ſtrait, and reſemble the Segments of Circles, or the Edges of Plates laid on one another: and theſe Segments are largeſt in its Middle, and they grow leſs as they approach its fore and hind-part, where they ſeem to reſemble two Worms, and therefore are called *Proceſſus Vermiformes*. The medullary Subſtance of the *Cerebellum*, as it approaches the *Medulla oblongata*, gathers together, and then divides equally into two Bundles, which are joined to the two ſides of the *Medulla oblongata*; as they ſeparate, they leave a little Space upon the upper-ſide of the *Medulla*, which is called the fourth Ventricle; and its further End, becauſe of its reſemblance, *Calamus Scriptorius*. The Top of this Ventricle is covered with ſeveral Blood-veſſels woven like a Net. The medullary Subſtance of the *Cerebellum* makes three Proceſſes upon each ſide of the *Medulla oblongata*: The firſt two go on each ſide to the *Teſtes*; the *Valvula major* is betwixt them. The ſecond two are pretty broad; they go ſtrait down on each ſide, and meet on the under-ſide of the *Medulla*: they make that Protuberance called *Proceſſus Annularis*. And the third goes backwards on the upper-ſide of the *Medulla*; they make it look bigger, being like two Cords upon its ſides.

This is all that is remarkable in the *Cerebrum*, *Cerebellum*, and upper-ſide of the *Medulla oblongata*; but upon turning the Brain, may be diſtinctly ſeen the Riſe of all the Nerves, the *Infundibulum*, two white Spots behind it, the *Crura Medullæ oblongatæ*, one on each ſide the *Cerebrum*; where they join, may be ſeen the *Proceſſus annularis*, or *Pons Varolii*: And beyond that there are two Prominences called *Corpora Pyramidalia*; they are about an Inch long, and on each ſide of them, towards their lower End, there are two more, which, becauſe of their Figure, are called *Corpora Olivaria*; and then the *Medulla oblongata* goes out of the Skull, being contain'd in the *Pia* and *Dura Mater*.

The Veſſels of the Brain are Nerves, Arteries, and Veins. The Nerves are ten Pair; the firſt Pair are the *Olfactory* Nerves, riſing from the Baſis of the *Corpora ſtriata*, and paſſing thro' the Holes of the *Os Cribriforme*. The ſecond Pair are the Optick Nerves; they ariſe partly from the Extremities of the *Corpora ſtriata*,

ſtriata, and partly from the *Thalami Nervorum Opticorum,* which they almoſt embrace; they unite together above the *Cella Turcica,* and immediately dividing again, they paſs thro' the two foremoſt Holes in the *Os Sphænoides.* The third Pair are the Movers of the Eyes; they riſe on each ſide the *Infundibulum* from the *Medulla oblongata,* and go out at the *Foramina Lacera.* The fourth Pair are the *Pathetic* Nerves; they riſe from the ſmall medullary Cord which is behind the *Teſtes,* and paſs thro' the *Foramina Lacera.* The fifth Pair riſe from the fore-part of the *Proceſſus Annularis*; they give Nerves to the *Dura Mater*; each of them divides into three Branches, the firſt paſſes out at the *Foramen Lacerum,* the ſecond at the third Hole of the *Os Sphænoides,* and the third thro' another Hole of the ſame Bone. The ſixth Pair riſes from the ſides of the *Proceſſus Annularis,* and goes out at the *Foramen Lacerum*; but juſt before it goes out, it caſts back a Branch which makes the Root of the intercoſtal Nerve; this goes out at the Canal thro' which the *Carotidal* Artery enters. The ſeventh is the Auditory Nerve; it riſes from the hind-part of the *Proceſſus Annularis,* and enters the Hole in the Proceſs of the *Os Petroſum.* The eighth Pair is the *Par Vagum*; it riſes from the *Medulla oblongata* behind the *Proceſſus Annularis,* by ſeveral Threads which join in one; and it goes out at the ſame Hole the lateral *Sinus's* open into the *Jugulares.* The ninth Pair riſes from the *Proceſſus Olivares* of the *Medulla oblongata,* and paſſes out at a Hole in the occipital Bone, which is proper to it ſelf. The tenth and laſt Pair riſes by ſeveral Fibres from the beginning of the *Medulla Spinalis*; from thence aſcending within the *Occiput,* it turns, and paſſes out at the ſame Hole thro' which the Vertebral Artery enters, between the firſt *Vertebræ* and the *Occipital* Bone, running thro' a *Sinus* in this *Vertebra.* Theſe are the Nerves of the Brain; which further ſee in their various Ramifications all over the Body, under the Word *Nerve.*

The Arteries are the two internal *Carotidales,* which paſs thro' two oblique Canals in the *Oſſa Petroſa*; as ſoon as they enter the Skull, they give a Branch which enters the Orbit of the Eye; they give Branches which make the *Rete mirabile,* then they pierce the *Dura Mater* on each ſide of the *Infundibulum*; they communicate with the cervical Artery, and they give Branches to the *Plexus Choroides,* and are diſtributed thro' all the Subſtance of the Brain. Their Branches make many Turnings and Windings upon the *Pia Mater,* and at laſt are loſt in the little Glands of the cortical Subſtance of the Brain. The two Vertebral Arteries which come out of the Holes in the tranſverſe Proceſſes of the *Vertebræ,* enter the large Hole of the *Occipital* Bone; they pierce the *Dura Mater,* and go along the under-ſide of the *Medulla oblongata*; then they caſt back two Branches for the ſpinal Arteries, and at the *Proceſſus Annularis* they join in one Branch called the cervical Artery; this communicates with the two *Carotides,* by two Branches called the communicant Branches; then it divides again into two, which give Branches to the *Rete mirabile* and *Plexus Choroides*; and they are afterwards diſtributed thro' all the Subſtance of the Brain, ending in the cineritious Subſtance, as the *Carotidales.*

The Veins enter not the *Cranium* at the ſame Hole that the Arteries do, becauſe upon any Turgeſcence of the Blood, the Swelling and Pulſe of the Arteries would compreſs the Veins againſt the bony ſides of their Paſſage, and ſo cauſe a Stagnation and Extravaſation of the Blood in the Brain, which would be the Deſtruction of the whole Machine. Neither do the Veins run along the ſides of the Arteries in the Brain, as they do thro' all the reſt of the Body, but they riſe from the Extremities of the Arteries, in the cineritious Subſtance, and go ſtrait to diſcharge themſelves into the *Sinus's* of the *Dura Mater*. The Blood which is brought into the Brain by the carotidal and vertebral Arteries, is ſeparated by the Glands which make the cineritious and cortical Subſtance of the Brain, from its fineſt and moſt ſubtile Parts, called animal Spirits, which are received from the Glands by the Fibres of the medullary Subſtance, which is the beginning of the Nerves. Each Nerve therefore is a Bundle of very fine and ſmall Tubes, of which ſome are no bigger than the hundredth Part of an Hair; and theſe Tubes are the excretory Ducts of the cineritious Subſtance. This does not only appear from the Structure of the Brain, but by reaſon likewiſe we are aſſured, that there is ſuch a Fluid as we call animal Spirits running in the Nerves: For ſeeing all Senſation is performed by the Nerves, it muſt be done either by the Subſtance of the Nerve, or the Fluid which is contained in the Nerve: If by the Subſtance of the Nerve, it muſt be by a Vibration from the Part upon which the Impreſſion is made to the Brain. Now that there can be no Vibration from the Impreſſion of external Objects upon animal Nerves, which are ſlack, and ſurrounded all along by other Bodies, is evident; and therefore Senſation muſt be made by the Fluid in the Nerves. The Motion of this Fluid is not ſwift and rapid, as is generally ſuppos'd, but ſlow and languid, ſeeing all its Motion proceeds from the Dilatation of the Arteries compreſſing the ſoft Subſtance of the Nerves, and from the Force by which it is thruſt thro' the Glands of the Brain: And when the Nerves are full of this fine Fluid, the Impreſſions of Objects may be communicated to the Brain without any quick Motion in the animal Spirits, either by retarding or ſtopping their progreſſive Motion, or by cauſing an Undulation. If to theſe be added, that the animal Spirits muſt be confined within their own proper Channels, as well as the other Fluids of the Body, the many Hypotheſes contrived by *Willis*, and others, muſt needs come to nothing.

The nervous Fluid, or animal Spirits, undoubtedly conſiſt of by far the ſmalleſt Particles in the Blood, as appears by the Minuteneſs of their ſecerning Glands; and therefore they not being formed by the Coheſion of other Particles, might have been ſeparated any where. Yet the animal OEconomy receives a great Advantage by the diſtant Station of the Brain from the Heart; for if it had been placed nearer, and received the Blood, ſtill divided into its ſmalleſt Particles, by the Force of the Air in the Lungs, ſuch Particles might have entred the Glands, as afterwards cohering to one another, might have obſtructed ſuch extremely narrow Channels. Now the Brain being placed at ſuch a diſtance, the Particles, that by their attractive Power form Corpuſcles, will have ſufficient time to coaleſce, and their Magnitude will hinder their entring into the Glands: For if it ſhould happen that theſe Particles ſhould enter the Glands, and there unite together, they would then obſtruct the Paſſage to the Nerves, and produce Apoplexies, Palſies, *&c.* the Particles of which the animal Spirits conſiſt being of ſuch an extreme Fineneſs, that their Quantity can bear but a ſmall Proportion to the other Fluids in the Blood; and conſequently there was a neceſſity of a prodigious number of Glands to ſeparate them from the Blood: and this is the reaſon of the great Bulk of the Brain.

Branchus, a Species of a Catarrh affecting the Jaws, Throat, and *Aſpera Arteria.* See *Catarrh.*

Breaſts: The Subſtance of the Breaſts is compoſed of a great Number of Glands of an oval Figure, which lie in a great Quantity of Fat. Their excretory Ducts, as they approach the Nipple, join and unite together, till at laſt they form ſeven, eight, or more ſmall Pipes, called *Tubuli Lactiferi,* which have ſeveral croſs Canals by which they communicate with one another, that if any one of them be ſtopped, the Milk which was brought to it might not ſtagnate, but paſs thro' by the other Pipes, which all terminate in the Extremity of the Nipple. They have Arteries, and Veins from the Subclavian and Intercoſtal. They have Nerves from the *Vertebral* Pairs, and from the ſixth Pair of the Brain. Their Uſe is to ſeparate the Milk for the Nouriſhment of the *Fœtus.* The Tubes which compoſe the Glands of the Breaſts in Maids, like a Sphincter-Muſcle, contract ſo cloſely, that no part of the Blood can enter them: but when the Womb grows big with a *Fœtus,* and compreſſes the deſcending Trunk of the great Artery, the Blood flows in a greater Quantity, and with a greater Force, thro' the Arteries of the Breaſts, and forces a Paſſage into their Glands, which being at firſt narrow, admits only of a thin Water; but growing wider by degrees, as the Womb grows bigger, the Glands receive a thicker *Serum*; and after Birth they run with a thick Milk, becauſe that Blood which before did flow to the *Fœtus,* and for three or four Days afterwards by the *Uterus,* beginning then to ſtop, does more dilate the mamillary Glands. In Men they are very ſmall, and chiefly for Ornament; tho ſome phyſical Hiſtories give Relations of thoſe who have had Milk in them.

Bregma, the ſome as *Parietalia Oſſa.* See *Cranium.*

Breve Vas. See *Vas Breve.*

Brevis Cubiti, is a Muſcle that riſes from the ſuperior and poſterior Part of the *Humerus*; which joining its fleſhy Fibres with the *Brachiæus externus* and *longus,* and becoming tendinous, covers the Elbow, and is inſerted into the *Olecranium* to extend the Arm.

Brevis Radii, a Muſcle that comes from the external and upper-part of the *Ulna,* and paſſing round the *Radius,* is inſerted into its upper and fore-part, below the Tendon of the *Biceps.* This and the *Longus Radii* are called the *Supinatores,* their Office being to turn the Palm upwards.

Brevis Palmaris, lies under the *Aponeuroſis* of the *Palmaris*; and ariſes from the Bone of the *Metacarpus,* that ſuſtains the little Finger, and from that Bone of the *Carpus* that lies above the reſt. It goes tranſverſly, and is inſerted into the eighth Bone of the *Carpus.* It helps in making the Palm of the Hand concave.

Brodium, is a Term in Pharmacy, ſignifying the ſame with *Juſculum*, or the Liquor in which any thing is boil'd. Thus we ſometimes read of *Brodium Salis*, or a Decoction of Salt.

Bronchocele, from βρόγχος, *Guttur*, the Wind-pipe, and κήλη, *Tumor*, a Swelling; is a Tumour of that Part of the *Aſpera Arteria* called the *Bronchus*.

Bronchotomy, from βρόγχος, the Wind-pipe, and τέμνω, *ſeco*, to cut, is that Operation which opens the Wind-pipe by Inciſion, to prevent Suffocation in a Quinzy.

Bronchus, is the lower-part of the *Aſpera Arteria*, dividing into Branches.

Brygmus, is a certain kind of Convulſion affecting the lower Jaw, and ſtriking the Teeth together, moſt frequently obſerved in ſuch Children as are ſubject to Worms.

Bubo, from Βουβὼν, *Inguen*, is that part of the Groin from the Bending of the Thigh to the *Scrotum*, and therefore all Tumours in that Part are called *Bubo's*; very unjuſtly of late appropriated to thoſe only which are venereal.

Bubonocele, from *Bubo*, and κήλη, *Tumor*, a Swelling; is a particular kind of Rupture, when the Inteſtines break down into the Groin.

Buccales Glandulæ. See *Mouth*.

Buccinator, is a Muſcle on each ſide the Face common to the Lips and Cheeks, and makes the inner Subſtance of the latter; its Fibres run from the *Proceſſus Coronæ* of the lower Jaw to the Angle of the Mouth, and they adhere to the upper-part of the Gums of both Jaws. Thro' its Middle paſs the upper *Ductus Salivalis*; by this is contracted the Cavity of the Mouth, and the Meat is thruſt forward to the Teeth in Maſtication.

Bulbous, are ſuch Plants as have round Roots, as Onions, Tulips, &c.

Bulimy, from Βοῦς, *Bos*, an Ox, and λιμὸς, *Fames*, Hunger; is a ravenous Appetite, the ſame as is expreſſed alſo by a Canine Appetite; which ſee.

Burſalis, is by ſome given as a Name to that Muſcle of the Thigh which *Bartholine* calls *Marſupialis*, from its reſemblance in Figure to a Purſe, both thoſe Terms importing ſo much.

Butiga, is an Inflammation of the whole Face, otherwiſe called *Gutta Roſacea*, which ſee.

C.

C*Abala*, is a Term that hath been antiently uſed in a very myſterious ſenſe amongſt Divines; and ſince, ſome enthuſiaſtick Philoſophers and Chymiſts have tranſplanted it into Medicine, importing by it ſomewhat Magical: but ſuch unmeaning Terms are now juſtly rejected.

Cacatoria Febris, is a Name given by *Sylvius* to an Intermittent, accompanied with a Diarrhœa.

Cachectick, is one under a

Cachexia, or a Cachexy, from κακὸς, *malus*, bad, and ἕξις, *Habitus*, a Conſtitution, a bad Habit or Conſtitution; that is, when the *Viſcera* are unſound, or the Juices diſtemper'd.

Cacoethes, is uſed by *Galen* and ſome others to expreſs an incurable Ulcer, that is render'd ſo thro' the Acrimony of the Humours flowing to it.

Cacochymy, from κακος, *pravus*, depraved, and χυμὸς, *Succus*, Juice, is when the Conſtitution abounds with vitiated Juices.

Cadmia, a Name for *Lapis Calaminaris.*

Caducus Morbus, is met with in ſome Authors for the Falling Sickneſs, moſt commonly called the Epilepſy.

Cæcum inteſtinum, or Blind-Gut. It is a Gut four or five Fingers Breadth long, and about the Bigneſs of a Swan's Quill. It is called *Cæcum*, becauſe it is open only at one end, by which it is tied to the beginning of the *Colon*, to which it ſeems to be an Appendage; ſo that the Excrements come in and go out at the ſame Orifice. Its other end which is ſhut, is not tied to the Meſentery, but to the right Kidney by means of the *Peritonæum.* Some account it as a ſecond Stomach, whereby the Food, after having detached all its Chyle thro' the *Lacteals* above, undergoes a further Digeſtion, ſo as to part with more Chyle thro' the *Lacteals* below it; but the Opinions of the Uſe of this are various.

Cæment, is uſed by *Paracelſus* in the ſame ſenſe as to calcine after a particular manner with corroſive Liquors, but more properly by *Helmont* and ſome others for luting.

Cæſar, or *Cæſarius*, ſignifies cutting a Child out of the Womb, either dead or alive, when it cannot otherwiſe be deliver'd. Which Circumſtance it is ſaid firſt gave the Name of *Cæſar* to the *Roman* Family ſo called; and is the Foundation for calling a Plaiſter in our *London* Diſpenſatory, *Emplaſtrum Cæſaris*, which is compoſed of Aſtringents to prevent Abortion.

Calamine, alſo call'd *Cadmia*, is a Foſſile found in many Places, which is uſed as a great Dryer and Abſorbent in outward Applications, as *Cerates* and Plaiſters, Collyriums, *&c.* but is ſeldom uſed inwardly.

Calamita; *Styrax* is ſo called, becauſe it is often put up in Quills.

Calamus Scriptorius: A dilatation of the fourth Ventricle of the Brain, thus called from its reſemblance of a Pen.

Calcaneus, is the ſame as *Os Calcis*, the Heel-Bone, which lies under the *Aſtragalus*, to which it is articulated by *Ginglymus.* Behind it, it has a large Protuberance which makes the Heel, and into which the *Tendo Achilles* is inſerted.

Calcifragus, ſignifies Stone-breaking, and is therefore applied to ſome things having that Quality, as by *Scribonius Largus* to the *Scolopendrium*, and by others to *Pimpernel*, called alſo for the ſame Reaſon *Saxifrage.*

Calcination, is ſuch a Management of Bodies by Fire, as renders them reducible to Powder; for which reaſon it is termed Chymical Pulverization. This is the next Degree of the Power of Fire beyond that of *Fuſion*; (which ſee.) For when Fuſion is longer continued, not only the more ſubtile Particles of the Body it ſelf fly off, but the Particles of Fire likewiſe inſinuate themſelves in ſuch Multitudes, and are ſo diſperſed and blended thro'out all its whole Subſtance, that the Fludity which was firſt cauſed by the Fire can no longer ſubſiſt. From this Union ariſes a third kind of Body, which being very porous and brittle, is eaſily reduced to Powder; for the Fire having penetrated every where into the Pores of the Body, the Particles are both hindred from mutual Contact, and divided into minute Atoms; ſo that they are eaſily reducible into the fineſt Powder.

Hence not only the Parts of the Body calcined are much broken and rarify'd, but render'd ſpecifically lighter. For the Gravity of crude Lead, if compared to Water, is as $11\frac{1}{2}$ to 1; but that of calcined Lead is as 9 to 1. So the Proportion of calcined Copper to Water is but $\frac{5}{11}$; but that of crude Comper is $8\frac{1}{2}$. The Proportion of white Lead to Lead it ſelf comes out ſtill leſs, *i. e.* ſubtriple. Four Ounces of *Regulus* of *Antimony*, if put into Fuſion for an Hour and a half, will gain two Drams and a half; tho in the mean time a multitude of Effluvia go off in Vapours. Hence the abſolute Gravity is increaſed indeed by Calcination, but the Specifick is leſſened; the reaſon of which is this, that the Particles of the Body, divided by the Fire, and ſeparated from mutual Contact, are diffuſed into a larger Bulk: But the Particles of Fire, which are much lighter than the calcined Body, being every where mixed with it, and diſperſed thro' its Pores, leſſen the ſpecifick, and increaſe the abſolute Gravity.

But however the Particles of Bodies are divided and ſeparated by Calcination, ſo as to be deprived of their antient Appearance; yet many Metals, and ſome Minerals, whoſe Parts are moſtly homogeneous, don't ſeem to loſe their Nature with their Form. For Gold, Silver, and Quickſilver, cannot be ſo deſtroy'd by all the calcining imaginable, but that they may with very little trouble be reviv'd. So out of Salt of Tin, the Tin it ſelf may be extracted again; nay, the Calx of Lead, the moſt impure of all Metals, returns with eaſe into its original Form. Thus too not only the *Regulus*, but the very Subſtance of the Antimony, may be drawn both from the Calx and Glaſs of Antimony. So that Calcination is but imperfectly performed in thoſe Bodies; for a great many Particles ſeem to be ſo little changed and deſtroyed, that as ſoon as ever they are let looſe from this artificial Combination, they reaſſume their proper and natural Figure. Neither ſhould we omit taking notice of what is of the greateſt Moment in all Calcination, that thoſe very Particles, whoſe attractive Force is ſtrongeſt, and which contribute moſt to the Coheſion of Bodies, fly off, and evaporate during Calcination: ſo that if a great Quantity of ſuch Particles ſhould evaporate, another Body of a very different Form may ſucceed. For in melting Lead, the Fumes riſe in ſuch a prodigious Cloud, that at length they leave behind nothing but a Calx, which has no manner of Reſemblance with that Metal. On the other hand, if Gold and Silver be calcined after the common Method, yet they ſtill retain their antient Form, becauſe ſcarce any of the Particles paſs off in Vapour. And indeed the Corpuſcles which paſs off in a calcining Fire, are ſuch as have the largeſt Surface, and leaſt Gravity; therefore Quickſilver, whoſe Particles are different, is with the greateſt difficulty reduced to a Calx.

Calidum innatum. The Antients had many vague Notions under this Term; but Geometrical Reaſoning has taught us to affix a more diſtinct Idea hereunto: for by that means we come to know, that it is only that Attrition of the Parts of Blood, which is occaſioned by its circulatory Motion, eſpecially in the Arteries; wherein being propelled from a circular Baſe towards the *Apex* of a hollow Cone, with a force begun in the Heart, it meets with a double Reſiſtance; that is to ſay, againſt the ſides of the Arteries; and from the preceding Blood. For whereas the Blood contains in it parts that are fitted to excite Heat, whenever they can get at liberty, that is, if the Parts incloſing them can be got aſunder; and whereas the Parts incloſing ſuch Corpuſcles, cannot be got aſunder, unleſs by ſome *Niſus* of the Parts of Blood with one another, whereby the Attrition and Abraſion of the cohering Particles is produced; it follows that the Heat will be ſo much the greater, by how much ſuch a *Niſus* and Attrition of the Parts amongſt one another is increaſed. And with the ſame Reſiſtances (that is, the Sections of the Arteries, and the Quantity of Blood remaining the ſame) and an increaſed Force of the Heart, and circular Motion of the Blood, the *Niſus* and Attrition of the Parts of Blood amongſt one another muſt neceſſarily be increaſed, both by the preceding Blood being ſtruck harder upon by the Protruſion of a ſucceeding Blood coming on with an increaſed Velocity, and the occaſioning thereby alſo more frequent Strokes againſt the ſides of the Arteries: by which means an increaſed Velocity of Blood increaſes the Heat, and conſequently its Heat depends upon its Circulation. From hence it appears, *That at the ſame diſtances from the Heart, the heat of equal Quantities of Blood will be as their Velocities*; and, *That in the ſame Velocities of Blood, the Heat will be reciprocally as the diſtances from the Heart.* For ſince in homogeneal and ſimple Bodies, nothing elſe is required to diſingage the Particles exciting Heat, but a *Niſus* and Attrition of Parts, produced by the Force of the Heart, to which is always proportional the Velocity of the Blood, and the Re-action or Reſiſtance of the Arteries and antecedent Blood; it follows, that if that Reſiſtance or Re-action is not altered, which it will not be at the ſame diſtance from the Heart, then the Heat of the Blood will not be altered, unleſs by an alteration of the Impetus or Velocity impreſs'd upon the Blood from the Heart: that is, as Effects are proportional to their Cauſes, the Heat of the Blood at the ſame diſtances from the Heart will be proportional to its Velocity. In the ſame manner it may be ſhewn, that if the Velocities impreſſed by the Heart are equal, there can be no change in the Heat of the Blood, but from a diverſified Reſiſtance or Re-action of the Arteries and antecedent Blood. But the Reſiſtance of the preceding Blood is proportional to its Quantity, and its Quantity is reciprocally proportional to the diſtance from the Heart, (for the nearer the Blood is to the Heart, ſo much the greater will be its Quantity between any given Place, and the Extremity of the Artery) and therefore the Reſiſtance of the Arteries will alſo be ſo much the greater, by how much nearer they are to the Heart: for in this caſe, the Reſiſtance is proportional to the Velocity, and the Velocity of the Blood is greateſt at the leaſt diſtances from the Heart. Hence the Heat of the Blood may be conſidered as a Rectangle under the Velocity and the Diſtance; that is, if in two Perſons the Velocity be as three, and the Diſtances wherein

We would determine the Heat be as much more in one as in another, that is, as 2 to 1; the Heat of one will be 6, and the other 3; that is, the Heat of the firſt will be double the Heat of the ſecond. If the Diſtances of the firſt be as 2, and the Velocity as 4, but the Diſtances of the ſecond as 3, and the Velocity as 1; the Heat of the firſt will be as 8, and of the ſecond as 3, and ſo the Heat of the firſt will be more than double the Heat of the ſecond.

Calenture, is a Diſtemper peculiar to Sailors, wherein they imagine the Sea to be green Fields, and will throw themſelves into it if not reſtrained. *Bonetus* gives an account of it in *Med. Sept.* as alſo does Dr. *Stubbs* in the *Philoſoph. Tranſact.*

Calidarium, thus *Celſus* calls that part of a Bath which was the *Hypocauſtum* of the antient *Greeks.*

Calix. See *Perianthium.*

Calloſity, and *Callus*, ſignifies a kind of ſwelling without Pain, like that of the Skin by hard Labour; and therefore when Wounds, and the Edges of Ulcers grow ſo, they are ſaid to be callous.

Calomel, is a Name commonly given to *Mercurius Dulcis*, but it ſeems at firſt to have more properly belonged to the *Æthiops Mineral*, from καλὸς, *pulcher*, fair, and μέλας, *niger*, black; for by rubbing that, Ingredients of a pale Complexion are reduced to black. But ſome will have it given to *Mercurius Dulcis*, from the Authority of a whimſical Chymiſt, who employ'd a Black in his Elaboratory, with a regard to the ſame Etymology, ſignifying both white and black; the Medicine anſwering to the one, and the Operator to the other.

Calva, and *Calvaria*, is the upper part of the Head, which grows bald the firſt.

Calx, the ſame as *Calcaneus*, which ſee. It is alſo a Term in Chymiſtry for any thing that is render'd reducible to Powder by burning; the word ſignifying Lime, which is ſo made.

Campanulous, or *Campaniformis*, are thoſe Plants whoſe Flowers reſemble the Shape of a Bell; from *Campana*, a Bell.

Canaliculus Arterioſus, is a Veſſel betwixt the arterious Veins of the Lungs, and the great Artery in *Fœtus*'s; for it is obliterated in adult Perſons: Thro' it the Blood is diſcharged out of the arterial Vein into the *Aorta.*

Cancer and *Carcinoma*, is a round, livid, and blackiſh Tumour, circumſcribed with turgid Veins, reſembling the Feet of a Crab, (tho not always) from whence it takes its Name, and is hardly ever cured; it being the preſent Faſhion rather to let it alone than meddle with it, on account of the ill Succeſs which has hitherto attended the Uſe and Application of rough irritating Medicines, which always cauſe it to ſpend the faſter, eſpecially if unſkilfully employ'd.

Canicidium: Drelincourt, in his anatomical Experiments, uſes this Term for the diſſection of Dogs, its Etymology importing as much.

Canine Appetite, is an inordinate extravagant Hunger, to the Degree of a Diſeaſe, ſo that the Perſon becomes as voracious as Dogs; whence the Name

Canini Dentes, are two Teeth in each Jaw, one on each ſide the *Inciſores.* They are pretty thick and round, and end in a ſharp Point. They have each one Root, which is longer than the Roots of the *Inciſores.* Their proper Uſe is to pierce the ſolid Aliments; becauſe the Fore-Teeth are not only apt to be pulled outwards by the things we hold and break with them, but likewiſe becauſe they are leſs ſubject to Blows than the *Molares*: therefore above two thirds of them are buried in their *Alveoli*, or Sockets, by which their Reſiſtance of all lateral Preſſures is much greater than that of the *Molares*.

Caninus Muſculus, is the ſame as *Elevator Labii ſuperioris*; which ſee.

Canthus, is the Corner of the Eye: The internal is called the greater, and the external the leſſer *Canthus*.

Capillaments, are thoſe ſmall Threads or Hairs which grow up in the middle of a Flower, and are adorned with little Herbs at the Top. And,

Capillary, or *Capillacious Plants*, are ſuch as have no main Stalk or Stem, but grow to the Ground, as Hairs on the Head; and which bear their Seed in little Tufts or Protuberances on the Back-ſide of their Leaves. And,

Capillary Veſſels, are the ſmall Ramifications of the Arteries; ſo called from *Capillus*, a little Hair.

Capiſtrum, a Bandage for the Head; ſo called by Surgeons.

Capital Lees, are the ſtrong Lees made by the Soap-Boilers from Pot-Aſhes; which are uſed in Surgery as a Cauſtick, and to make the *Lapis infernalis*.

Capital Medicines, are the *Venice*-Treacle, Mithridate, *&c.* ſo called by way of Pre-eminence; from *Caput*, Head, or Chief.

Caprizans, is by *Galen*, and ſome others ſince, uſed to expreſs an Inequality in the Pulſe, when it leaps, and as it were dances, in uncertain Strokes and Periods.

Capſa, ſtrictly ſignifies a Bag, or Pocket; whence its derivative *Capſula* is applied to many Parts of the Body, having any Reſemblance thereunto. As,

Capſulæ Atribilariæ, called alſo *Renes Succenturiati*, and *Glandulæ Renales*. See *Kidneys*.

Capſula Cordis. See *Pericardium*.

Capſula communis, is a Membrane ariſing from the *Peritonæum*, and incloſing both the *Vena Porta*, and *Porus Biliaris*.

Capſulæ Seminales. See *Veſiculæ Seminales*. This Term is alſo applied to a Chirurgical Inſtrument for making Iſſues, which is deſcribed by *Aquapendens*, and *Scultetus*.

Caput Gallinaginis, a Woodcock's, Snipe's, or Cock's-Head; is a kind of *Caruncle*, or ſpongy Border, at the Extremities, or Apertures of the *Veſiculæ Seminales*, to prevent the *Impetus* of the Seed from being ſufficient there to dilate the Orifices of the *Vaſa Deferentia*, but when aſſiſted by the Compreſſion of the ſurrounding Parts in Copulation.

Caput Mortuum, dead Head, is the *Reſiduum* after Diſtillation, of any kind whatſoever; or Earth, when all the other Principles are ſeparated from it.

Caputpurgia, is a Term arbitrarily made uſe of by ſome Writers to expreſs all things which cleanſe the Head, by ſneezing, or any other means.

Carabe, is the ſame with ſome Authors as Amber.

Carbuncle. This is ſometimes uſed in the ſame ſenſe as *Anthrax*, which ſee; but is more generally taken for that particular Boil, which appears in Peſtilential Fevers, and is a red, hard Swelling with great Pain, and a burning Heat. From its Similitude to the Colour of Fire likewiſe, this Term ſtrictly ſignifying a live Coal, is ſometimes given to a precious Stone of the Ruby kind.

Carcinoma, from καρκίνος, *Cancer*, and νέμω, *depaſco*, to feed upon; is a particular Ulcer, called commonly a *Cancer*, which is very difficult to cure. A Diſorder likewiſe in the horney Coat of the Eye is thus called by ſome Writers.

Cardia, ſignifies both the Heart and the left Orifice of the Stomach, which was by ſome of the Antients ſuppoſed to have an uncommon Conſent therewith. Hence alſo things which are ſuppoſed to influence the Heart immediately as Cordials, are called *Cardiacks*.

Cardialgia, the Heart-burn, a Pain ſuppoſed to be felt in the Heart, but more properly in the Stomach, and ſometimes riſes all along from thence up to the *OEſophagus*; cauſed by the Acrimony of ſome exploſive Matter in the Stomach, which vellicates, and as it were burns the Fibres which it paſſes. 'Tis felt moſt frequently when the Stomach is ſomewhat empty, and in that caſe may be cured by eating and drinking. Otherwiſe, the Specific for it is ſuppoſed to be Chalk, Crabs-Eyes, or the like terreſtrial Alkalies, taken in a large Doſe, with a Glaſs of Water: But the moſt powerful Remedy for it, ſeems to be the Powder of the inward Coat of a Fowl's Gizzard, cleanſed and dried.

Cardo, a Hinge: The ſecond *Vertebra* of the Neck is ſo called, becauſe the Head turns upon it. See *Epiſtrophæus*.

Caricous Tumour, called by *Hippocrates* καρυκοιδές, is a Swelling reſembling the Figure of a Fig, ſuch as are frequently the Piles; from *Carica*, ſignifying a Fig, from *Caria*, a Country whence they are ſometimes brought.

Caries, expreſſes that Rottenneſs which is peculiar to a Bone. Whence,

Carious, is ſaid of a foul Bone, or one inclining to Rottenneſs.

Carina, ſtrictly ſignifies the Keel of a Ship; and from a Similitude in Figure ſome Anatomiſts call the Spine ſo, as does *Malpighi* the firſt Rudiments of a Chick in the Egg.

Carminative. A great many ſeem to be Strangers to this Term, as it does not appear to carry in it any thing expreſſive of the medicinal Efficacies of thoſe Simples which paſs under its Denomination. This had certainly its riſe, and was thus applied, when Medicine was too much in the hands of thoſe Jugglers, who for want of a true Knowledge in their Profeſſion, brought Religion into their Party; and what they were ignorant in doing by rational Preſcription, and the Uſe of proper Medicines, they pretended to do by Invocations, and their Intereſt with Heaven. Which Cant being generally, for the ſurprize ſake, couched in ſome ſhort Verſes, the Word *Carmen*, which ſignifies a Verſe, was alſo made to mean an Inchantment; which as it was a very good Covert for their Ignorance as well as their Knavery, was frequently made uſe of to ſatisfy the People of the Operation of a Medicine they could not account for. And as the Medicines now under this Name are of a quick Efficacy, and the Conſequences thereof in many Inſtances great and ſurprizing; the moſt violent Pains ſometimes ariſing from pent up Wind, which immediately ceaſe upon its Diſperſion: for theſe Reaſons, ſuch Medicines as give Relief in this Caſe, are more particularly termed carminative, as if they cured by Inchantment; the Complaint removed by them being ſo ſudden, that the ordinary Means done, or the Operation of a natural Cauſe, are not well imagined to take place ſo ſoon. But how theſe do this, is eaſy to imagine, when we conſider that all the Parts of the Body are perſpirable, and that the perſpirable Matter may lodge ſometimes in the Valves of the Bowels, and Interſtices of all Parts, and that whatſoever will rarify and render thinner ſuch Collections of Vapours, will conduce to their utter Diſcharge out of the Body: For all thoſe things under this Denomination are warm, and conſiſt of very light ſubtile Parts, whereby they rarify ſuch Flatulencies, and ſo facilitate their Expulſion.

Carnicula, is uſed ſometimes by *Fallopius* in the ſame ſenſe as *Caruncle*; which ſee.

Carnivorous, by the *Greeks* called *Sarcophagi*, is uſed to diſtinguiſh thoſe Animals that live on Fleſh; the word almoſt importing ſo much.

Caro, Fleſh, is ſtrictly ſuch Parts of the Body where the Blood-Veſſels are ſo ſmall as to retain enough to preſerve their Colour red; but ſome Anatomiſts make very perplexed and uſeleſs Diſtinctions under this Term: for all the Body being a Congeries of Canals and Fluids, no Part more than another can be ſaid to be permanent or fleſhy, but in this Limitation.

Caroli, ſome Writers in Surgery thus call little Venereal Excreſcencies in the Privy Parts.

Carotides, are two Arteries which ariſe out of the aſcending Trunk of the *Aorta*, near where the ſubclavian Arteries ariſe; and as they aſcend on each ſide the *Aſpera Arteria*, give ſome Branches to the *Trachæa*, *Larynx*, *Glandula Thyroides*; and then they ſend out four conſiderable Springs to the Muſcles of the *Os Hyoides* and *Pharynx*, to the *Milohyoides* and *Digaſtrici*, to the lower Jaw of the Temples, and to the Muſcles of the hind part of the Neck, and Skin of the Head. Then they paſs thro' the Canal in the *Os Petroſum*, give ſome Branches to the *Dura Mater*, join with the *Cervicalis*, detach ſome Sprigs to the *Glandula Pituitaria*, *Rete Mirabile*, and *Plexus Choroides*; and then running thro' all the Circumvolutions of the *Cerebellum*, loſe their Capillary Branches in the cortical Subſtance. They have by ſome been titled *Arteriæ Soporariæ*, on a Conjecture that they were the Seat of Sleep.

Carpus, the Wriſt. It is made up of eight little Bones of different Figures and Thickneſs. They are placed in two Ranks, four in each Rank. The firſt Rank is articulated with the *Radius*; the ſecond with the Bones of the *Metacarpus*. The laſt little Bone of the firſt Branch lies not at the Side of the third, which anſwers to the Bone of the *Metacarpus* of the little Finger, as all the reſt do by one another, but it lies upon it: They are ſtrongly tied together by the Ligaments which come from the *Radius*, and by the annulary Ligament, thro' which the Tendons which move the Fingers paſs. Altho this Ligament be thought but one, yet it gives a particular Caſe to every Tendon which paſſes thro' it.

Cartilago, is a ſmooth and ſolid Body, ſofter than a Bone, but harder than a Ligament. In it there are no Cavities, or Cells for containing of Marrow, nor is it covered over with any Membrane to make it ſenſible, as the Bones are.

The Cartilages have a natural Elaſticity, by which if they are forced from their natural Figure or Situation, they return to it of themſelves, as ſoon as that Force is taken away. They are chiefly in thoſe Places where a ſmall and eaſy Motion is required, as in the Ears, Noſe, *Larynx*, *Trachea*, and *Sternum*; and their natural Elaſticity ſerves inſtead of Antagoniſt Muſcles. They cover alſo all the Ends of the Bones, which are joined together for Motion, becauſe they are ſmoother than the Bones, which are without Senſe; and by being ſofter than the Bones, the Attrition which is made by the Motion of the Joints, is the more eaſily guarded againſt.

Cartilago Enſiformis, and alſo called *Xiphoides*, from ξίφος, *Enſis*, a Sword, and εἶδος, *Forma*, Shape, is the Tip or Extremity of the *Sternum*, which is broad at its upper End, and narrower towards the Extremity, where it is ſometimes a little forked, and bends downwards, ſo as to hurt the Stomach, and cauſe Vomiting. See *Sternum*.

Cartilago innominata, ſo called by *Galen*, is the ſame as the Moderns call *Annularis* or *Cricoides*, which is the ſecond Cartilage of the *Larynx*, and according to *Bartholine* is the Baſis of all the other.

Cartilago Scutiformis, ſo called from its reſemblance to a Helmet in Shape, is that Cartilage whoſe Prominence is diſcernable externally in the Throat; and by ſome called *Pomum Adami*, from a Conceit of its leaving a Mark of the divine Wrath upon *Adam*'s Tranſgreſſion.

Caruncle, is either preternatural, as thoſe little Excreſcences in the urinary Paſſages, in Venereal Caſes eſpecially; or natural, as the *Carunculæ Myrtiformes*, from their reſemblance of Myrtle-Berries, ſo called; as alſo *Glandulæ Myrtiformes*. They are made by the Rupture of the *Hymen* in the firſt Copulation, which contracting in ſeveral Places, forms thoſe *Caruncles*, or Glands.

Carunculæ Lachrymales, *Puncta Lachrymalia*, and *Glandulæ Lachrymales*: all concur in the ſame Offices, and will hardly admit of a ſeparate Deſcription; thus diſtinguiſhed from *Lachrymæ*, Tears. On the back-ſide of the *Adnata Tunica* of the Eye, upon the upper Part of the Globe, is the *Glandula Lachrymalis*, pretty large, divided into ſeveral Lobes, each of which ſends out an excretory Channel, which opens in the Fore-ſide of this Membrane, where it covers the upper Lid. This Gland ſeparates the Matter of the Tears, which by the continual Motion of this Lid moiſten the *Cornea*, which otherwiſe would dry and wrinkle by the continual Action of the external Air. The Edge of the Eye-lid being of an equal Convexity with the Ball of the Eye, which they touch, as the Tears fall off from the *Cornea*, they are ſtopt by the Edge of the under Eye-lid, along which they run till they fall into two ſmall Holes in the great *Canthus*, one in each Lid. Theſe Holes are called *Puncta Lachrymalia*: And theſe lead to a ſmall membranous Bag, which is ſituated in this Corner upon the *Os Lachrymale*: from the Bottom of which goes a ſmall Pipe, which pierces this Bone into the Noſe, and opens under the upper *Lamina* of the *Os Spongioſum*. It moiſtens the inner Membrane of the Noſtrils by the Humour of the lachrymal Glands, which runs from off the Globe into them. Sometimes the Acrimony of this Humour cauſeth ſneezing, which may be hindred by preſſing the Angle of the Eye to ſtop its flowing. Now between theſe two *Puncta* there is a Caruncle which ſerves to keep them open when the Eyes are ſhut, and this by ſome is ignorantly called the *Glandula Lachrymalis.*

Carunculæ Papillares, are thoſe little Protuberances on the Inſide of the *Pelvis* of the Kidneys, made by the Extremities of the Tubes, which bring the Serum from the Glands in the exterior Parts to the *Pelvis.*

Carus, is a ſleepy Diſeaſe, more aggravated than a *Lethargy*, but not ſo bad as an *Apoplexy*, according to ſome Writers; but ſuch minute Sub-diviſions of the ſame thing are now much in diſuſe.

Caſſamunair, an aromatic Vegetable; being a Species of Galangal, brought from the Eaſt, and highly valued as a nervous and ſtomachic Simple.

Caſtration, is taking away the Teſticles of any Creature; called alſo *Gelding.*

Catagmatic, expreſſes any thing of uſe in the Cure of Fractures; and thus an officinal Plaiſter hath obtained the Name of *Emplaſtrum Catagmaticum.*

Catalepſis, a lighter Species of the Apoplexy or Epilepſy; which ſee.

Catamenia, the ſame as *Menſes*; which ſee.

Cataphora, is much the ſame Diſeaſe with *Coma*; which ſee.

Cataphractica, is a particular Bandage for the Throat, of which *Scultetus* gives a Figure and its Uſe.

Cataplaſm, is a topical Form, known beſt by the Name of a Poultice.

Cataptoſis, ſignifying a ſudden and unexpected Prolapſion of the human Body, is a Symptom in the Apoplexy, or Epilepſy.

Cataract, from καταῤῥάσσω, *confundo,* to confound; becauſe it deſtroys the Sight. It begins with a Suffuſion of the Eye, when little Clouds, Motes, and Flies ſeem to float about in the Air; but when confirmed, the Pupil of the Eye is either wholly, or in part, covered, and ſhut up with a little thin Skin, ſo that the Light has no admittance. There is a great Nicety in taking this off; but, I know not by what Neglect, 'tis altogether given over to Empiricks to perform. Some will have it that theſe Repreſentations are from Corpuſcles floating in the aqueous Humour; others aſcribe them to the Condenſation or Coagulation of the aqueous Humour; and others again to the Thickning of the Cryſtalline Humour: but Corpuſcles neither in the aqueous or cryſtalline Humour can be perceived on the *Retina*; nor can the Adheſion of any thing to the exterior Surface of the *Cornea* repreſent any Image upon the Bottom of the Eye. For ſuch is the Convexity of the *Cornea,* and Poſition of the *Retina,* that an Object muſt be placed at a greater diſtance from the *Retina,* than the *Cornea* is, in order that its Image may be painted upon the Bottom of the Eye; that is, that all the Rays proceeding from each Point of a viſible Object may converge to as many Points on the *Retina:* whence there is no Point in a viſible Object, from which Rays flowing do not, or at leaſt ought not to touch every Point in the *Cornea.* Therefore unleſs all the Rays emitted from each Point of an Object are collected in one Point of the *Retina*, they will not have a ſufficient force to repreſent there the diſtinct Appearances of Points, *i. e.* the Image of the Object. But it is impoſſible this ſhould be effected according to the Rules of Opticks, if the Object be too near the *Reti-*

na, or not removed from it a ſufficient Diſtance. See *Amauroſis.*

Catarrh, from καταῤῥέω, *defluo*, is a Defluxion of a ſharp Serum from the Glands about the Head and Throat, generally occaſioned by a Diminution of inſenſible Perſpiration, commonly called a Cold, wherein what ſhould paſs by the Skin ouzes out upon thoſe Glands, and occaſions Irritations, Coughs, and all the uſual Symptoms. The Cauſes are whatſoever accumulates too great a Quantity of Serum in the Body; whatſoever hinders the Diſcharges by Urine, and the Pores of the Skin, too much liquifies the Blood, aſtringes the Bowels, or weakens Digeſtion: For tho the Food is changed into a ſort of Fluid, notwithſtanding that Digeſtion is weaken'd, yet ſince its Comminution is not great enough for the Chyle, which is made of it, to compoſe with the Blood an homogeneous Fluid, it will be eaſily again ſeparated from it into Parts where its Velocity impreſſed from the Heart grows languid, that is, in the Glands ſituate about the Head, which are numerous enough to ſeparate a great Quantity of Serum thro' them. And indeed from what Cauſe ſoever the Serum is accumulated in the Veſſels beyond its Quantity, its greateſt Part cannot but, after ſome Circulations, lodge it ſelf about the Head or Brain; becauſe that is furniſhed with the leaſt Reſiſtances, either to oppoſe it, or throw it off after Lodgment. And upon that account the Brain it ſelf will ſoon be in fault, whenever the Blood or other Humours are ſo. Some have wrote very largely of this Diſtemper, and particularly *Schneider*; and many include under it all kinds of Defluxions: but the moſt received Diſtinctions are included in theſe Verſes;

Si fluit ad Pectus, dicatur Rheuma Catarrhus,
Ad Fauces Branchus, *ad Nares eſto* Coryza.

tho *Hippocrates* enumerates ſeven Species of Defluxions under this Appellation. When a Fever ariſes with theſe Symptoms, it is called *Febris catarrhalis*; and *Willis* gives an Inſtance of one that was epidemical and malignant, *de Febr. Cap.* 17.

Cataſtaſis, frequently uſed by *Hippocrates* to expreſs the Conſtitution, or State of any thing; and commonly applied by *Galen* to the Seaſons of the Year.

Cathareſis, from καθαιρέω, *abſumo*, to waſte: *Hippocrates* uſes it for ſuch a Conſumption of the Body as happens without any manifeſt Evacuation; but *Scribonius Largus*, and ſome others expreſs by it ſuch Loſs as ariſes from Purging or the like.

Cathartick, from καθαίρω, *purgo*, to purge; is a Term uſed for all purging Medicines. The *Vermicular* or *Periſtaltick* Motion of the Guts, is ſuch as continually helps on their Contents, from the *Pylorus* down to the *Rectum.* Now every Irritation either quickens that Motion in its natural Order, or occaſions ſome little Inverſions of it. In both, what but ſlightly adheres to the Coats or inner Membranes will be looſened and ſhook off, and carried forward with their Contents; and they will alſo be more agitated, and thus rendred more fluid. By this only 'tis manifeſt, how a Cathartic haſtens and encreaſes the Diſcharges by Stool; but the ſame manner of Operation alſo carries its Effects much further, in proportion to the Force of the *Stimulus*: For where it is great, all the *Appendages* of the

Bowels, and even all the *Viſcera* in the *Abdomen*, will by a Conſent of Parts, be pulled or twitched, ſo as to affect their reſpective Juices in the ſame manner as the Inteſtines themſelves do their Contents. The Conſequence of which muſt be, that a great deal will be drained back into the Inteſtines, and made a Part of what they diſcharge. And when we conſider the vaſt number of Glands in the Inteſtines, with the Outlets of thoſe *Viſcera* opening thereinto, and particularly of the Liver and *Pancreas*; it will be no wonder that vaſt Quantities, eſpecially in full Conſtitutions, may be carried off by one Purge.

As for thoſe Catharticks which are diſtinguiſhed by the Names of *Cholagogues, Hydragogues, Phlegmagogues,* and the like, upon a Suppoſition of an Elective Quality therein, they may be accounted for upon more intelligible Principles: for when the Diſcharges by Stool diſcover an Over-proportion of any particular Humour, it is to be ſuppoſed there was a Redundance of ſuch a Humour, whoſe Diſcharge any Irritation would occaſion. Thus in proportion to the Proximity of ſome Humours in the inteſtinal Tube, and the Diſpoſition of the Paſſages to convey them that way, do they require greater or leſſer Vibrations, or Shakes of the Fibres from a Cathartic to fetch them out. For this Reaſon the brisker Catharticks which vellicate the Membranes moſt of all, pump out as it were, from all the Meſenterial Glands, and neighbouring Parts, their Contents; which becauſe they abound ſo much with Lymphaticks, and viſcid watry Humours, make the Diſcharges thin and watry: thoſe which act in ſomewhat a lower degree, yet irritate enough to deterge and draw out a great deal of mucous and viſcid Matter, which ſometimes by Lodgment, and want of due Motion, changing into various Colours, occaſions different Names of Phlegm or Choler. As the former therefore paſs for *Hydragogues*, ſo do the latter for Purgers of Phlegm and Choler.

Upon another Account beſides that of a *Stimulus*, does a Cathartic anſwer its Intention, and that is by fuſing the Humours, and rendring them more fluid than they were before; whereby they are better fitted to paſs off by their proper Emunctories. Thoſe which conſiſt of very ſubtile and active Parts, are not ſo ſenſible in the larger Paſſages, becauſe of the great Quantities of Matter which lay too great a Load upon them, and make them unheeded: but when they are got into the Blood in any conſiderable Number, they divide and fuſe thoſe Coheſions which obſtruct, or move heavily along the Capillaries, and ſcour the Glands; inſomuch that every Pulſation throws ſomething thro' the inteſtinal Glands, which goes away by Stool, that the refluent Blood had waſhed away, and brought back from all Parts of the Body. Of this kind are all thoſe Catharticks which are ſaid to purge the Joints, and are preſcribed in Rheumatiſms, and arthritick Pains, as the *Radix Turpethi*, and all the *Aloeticks*. And this is the Reaſon why Catharticks of this ſort are ſo eaſily changed into the moſt efficacious Alteratives; for an Alterative is a Cathartic in a lower degree, or of a more remiſs Operation. Whatſoever brings ſuch Particles to a ſecretory Orifice, which are fitted for its Paſſage, oftner, either by accelerating the Blood's Motion, or breaking it into more Particles of that particular Size and Inclination, will encreaſe that Secretion. According therefore to the Difference of the Parts where ſuch Secretions are enlarged, as the Glands of the Inteſtines, Kidneys, or Skin, the Medicines which are the Inſtruments therein, are call'd either Catharticks, Diureticks, or Diaphoreticks.

Cathereticks, are Medicines which ſerve to take off the fungous or ſuperfluous Fleſh that is apt to grow up in Wounds or Ulcers, and are the ſame with Cauſticks and Eſcharoticks.

Catheter, is a hollow Inſtrument, and ſomewhat crooked, to thruſt up the Yard into the Bladder, to aſſiſt in bringing away Urine, when the Paſſage is ſtopped by a Stone or Gravel; tho ſome Writers uſe it alſo for Liniments and other external Applications.

Catholick, from κατ', *per*, thro', and ὅλον, *totum*, all; is aſcribed to Medicines that are ſuppoſed to purge all Humours: alſo the ſame as a *Panacea*, or univerſal Medicine: but ſuch are now laughed at for Impoſitions.

Cava. See *Vena Cava*.

Caul. See *Omentum*.

Cauſus, is a Species of a Fever attended with violent Heat, and Reſtleſneſs. See *Bellini de Febribus*.

Cauſticks, from καίω, *uro*, to burn; are ſuch things as by their violent Activity, and Heat thence occaſioned, deſtroy the Texture of the Part to which they are applied; and eat it away, as we commonly expreſs it, or burn it into an *Eſchar*, which they do by the extreme Minuteneſs, Aſperity, and Quantity of Motion, that like thoſe of Fire it ſelf tear aſunder all Obſtacles, deſtroy the Texture of the Solids themſelves, and change what they are applied to, into a Subſtance like burnt Fleſh; which in a little time with detergent Dreſſing, falls quite off, and leaves a Vacuity in the Subſtance of the Part. Theſe are of uſe generally in Abſceſſes and Impoſthumations, to eat thro' to the ſuppurated Matter, and give it vent; and alſo to make Iſſues in Parts where cutting is difficult or inconvenient.

Cautery, from the ſame Etymology as the foregoing, is either actual or potential; the firſt is burning by a hot Iron, and the latter with cauſtick Medicines. The actual *Cautery* is generally uſed to ſtop Mortification, by burning of the dead Parts to the quick; or to ſtop the Effuſion of Blood, by ſearing up the Veſſels.

Celerity. See *Velocity*.

Celiack Artery and *Vein*. See *Artery* and *Vein*.

Cells, are little Bags or Bladders, where Fluids, or Matter of different ſorts, are lodged; common both to Animals and Plants.

Cella Turcica. See *Brain*, and *Pinealis Glandula*.

Cellulæ Adipoſæ, the ſame as *Adipoſi Ductus*; which ſee.

Center, is the Middle of any Body, or that Point which is every way, or as near as poſſible equidiſtant from its Surface.

Center of Gravity of any Body, is a Point on which that Body being ſupported, or from it ſuſpended, all its Parts will be in an *Equilibrium* to one another. Thus the Center of Gravity of the human Body extended at length, is by *Borelli de motu Animalium*, placed between the *Nates* and *Pubes*, which is ſuppoſed very convenient for the Act of Generation.

Center, common, of the Gravity of two Bodies, is a Point in a right Line connecting their Centers, and ſo poſited in that Line, that their

Dif-

Diſtances from it ſhall be reciprocally as the Weight of thoſe Bodies; and if another Body is placed in the ſame right Line, ſo that its Diſtance from any Point in it be reciprocally as the Weight of both the former Bodies taken together, that Point ſhall be the common Center of Gravity of all three.

Center of Motion of a Body, is that Point about which a Body moves when faſtned any way to it, or made to revolve round it.

Center of Oſcillation, is that Point in a compound Pendulum, where, if its whole weight were faſten'd, it would ſtill oſcillate or perfom its Swings in the ſame time as before: and conſequently it muſt be diſtant from the Point of Suſpenſion by the length of a ſimple Pendulum, whoſe Oſcillations are ſynchronal with thoſe of the Compound.

Center of Percuſſion, is that Point in any Body wherein the Force of a Stroke made with it is the greateſt.

Central Forces: this is a general Appellation for the two grand Species, centrifugal and centripetal Forces.

Centrifugal Force, from *Centrum*, a Center, and *fugo*, to fly, is that Force by which all Bodies moving round any other Body in a Circle or an Ellipſis, do endeavour to fly off from the Axis of their Motion in a Tangent to the Periphery of it. And this Force is always proportional to the Circumference of the Curve, in which the revolving Body is carried round. The centrifugal Force to the centripetal, is as the Square of the Arch which a Body deſcribes in a given Time, divided by the Diameter, to the Space thro' which any heavy Body moves in falling from a Place where it was at reſt in the ſame time. If any Body ſwim in a Medium heavier than it ſelf, the centrifugal Force is then the Difference between the ſpecifick Weight of the Medium and the floating Body.

Centripetal Force, from *Centrum*, a Center, and *peto*, to ſeek; is that Force by which any Body moving round another is drawn or tends towards the Center of its Orbit, and is much the ſame with abſolute Gravity; which ſee. If a Body being ſpecifically heavier than any Medium, ſinks in it, the Exceſs of that Body's Gravity above the Gravity of the Medium, is the centripetal Force of the Body downwards.

Centrum, and *Centration*, are Terms uſed by *Paracelſus* and ſome of his Followers, to expreſs the Principle, Root, or Foundation of any thing: as God to be the Center of the Univerſe, the Heart the Center of Life, the Brain the Center of Spirits, *&c.*

Cephalæa, and *Cephalalgia*, from κεφαλὴ, *Caput*, the Head, and ἀλγέω, *doleo*, to ache; is a Pain in the Head from what Cauſe ſoever. See *Pain.*

Cephalicks, from the ſame Derivation, are all thoſe Medicines which are good for Diſtempers of the Head.

Cephalick Vein, creeps along the Arm between the Skin and the Muſcles, and divides into two Branches. The external goes down to the Wriſt, where it joins the Baſilica, and turns up to the Back of the Hand; the internal Branch, together with a Sprig of the Baſilica, makes the Mediana. The Antients uſed to open this Vein in Diſorders of the Head; for which reaſon it bears this Name: but a better Acquaintance with the Blood's Circulation, informs us that there is no Ground for ſuch a Notion.

Cephaloides, is a Term given by *Crollius* and ſome others, who aſcribed Virtues to Plants from their ſignatures, to thoſe which had any Reſemblance to a Head, the Term importing ſo much; as the Poppy, Piony, and the like.

Ceration, is a Term uſed by ſome Chymiſts in various Senſes. *Rulandus* explains it from *Geber* to be the ſoftening a hard Subſtance into a waxy Conſiſtence; but *Johnſon* and ſome others expreſs by it the ſame as Incorporation, or Mixture.

Cerate, from *Cera*, Wax, is a Medicine made of Wax, which with Oil or ſome ſofter Subſtance makes a Conſiſtence thinner than a Plaiſter.

Ceratogloſſus, from *κέρας*, *Cornu*, a Horn, and *γλῶσσα*, *Lingua*, the Tongue, its Shape being like a Horn; is a Muſcle that ariſes broad and fleſhy, from the Sides of the *Os Hyoides*, and is inſerted into the Root of the Tongue, which it pulls directly into the Mouth.

Ceratorides: ſome Anatomiſts thus call the *Tunica Cornea* of the Eye, which ſee.

Cerebella Urina: *Paracelſus* thus diſtinguiſhes a Urine which is whitiſh, of the Colour of the Brain, and from whence he pretended to judge concerning ſome of its Diſtempers.

Cerebellum, is compoſed of a Cortical and Medullary Subſtance, lying in the hinder part of the Head. Its Superficies is full of ſtrait Foldings, which reſemble the Segments of Circles, or the Edges of Plates laid on one another; and theſe are largeſt in its Middle, and grow leſs as they approach its fore and hind Part, where they ſeem to reſemble two Worms, therefore called *Proceſſus Vermiformes*. The Medullary Subſtance makes three Proceſſes upon each ſide of the *Medulla Oblongata*. Its great Uſe is to ſeparate the nervous Fluid, called animal Spirits, from the Blood.

Cerebrum, is of a round Figure, and divided by the firſt Proceſs of the *Dura Mater*, into the right and left Side. Its external Surface reſembles the Circumvolutions of the ſmall Guts, and in the middle of each Circumvolution is the Beginning of the Medullary Subſtance, ſo that the Cortical Part is always on the Outſide; which *Malpighi* ſays is nothing but a heap of little oval Glands, which receive the Capillary Branches of the Veins and Arteries which belong to the Brain, and which ſend out an infinite number of Fibres, which all together make up the Medullary Subſtance; and paſſing out of the *Cranium*, forms the Nerves and *Medulla Spinalis* contained in the *Vertebræ*: and hence the nervous Juice is derived into the Nerves and Fibres of the whole Body, by the *Corpus Calloſum*, and *Medulla Oblongata*. See *Brain*.

Cerefaction, uſed by the Chymiſts as *Ceration*; which ſee.

Celæum, uſed by ſome antient Authors for a Compoſition of Wax and Oil, and by others, as *Rolfinkius*, for an Oil made from Wax.

Ceroma, was uſed by the antient Phyſicians for an Unguent or Cerate, tho originally it ſeems to have been given to a particular Compoſition which the Wreſtlers uſed in their Exerciſes; whence *Juvenal* calls one ſo anointed *Ceromaticus*, *Sat.* 3.

Cervix, the hinder Part of the Neck, as the fore Part is called *Collum*.

Cervix Uteri, is the Neck of the Womb.

Cerumen, is the Wax or Excrement of the Ear, to which *Schroder*, and ſome other Writers aſcribe very ſtrange Virtues as a Medicine.

Ceruſe, is a Preparation of Lead with Vinegar, which is of a white Colour, whence many other Things reſembling it in that particular, are by Chymiſts called *Ceruſe*, as the *Ceruſe* of Antimony and the like. *Paracelſus* alſo applies it to a white Urine, which he calls *Ceruſſea Urina*, and ſays it is a ſign of Death, or of a foul obſtructed Liver.

Chalcytis is ſomething metalline growing in the Veins of Braſs, or a kind of mineral Vitriol; but the Shops generally ſubſtitute in its room burnt Vitriol, or the *Caput Mortuum* of Oil of Vitriol.

Chaomantica ſigna, ſo *Paracelſus* calls thoſe Prognoſticks that are taken from Obſervations of the Air; and the Skill of doing this, the ſame Author, who hath introduced many ſtrange Terms into Medicine, calls *Chaomantia*.

Chaos, is uſed for the original Matter of the Univerſe before it was brought into Form, and from thence for things in Confuſion.

Charta Emporetica, is Paper made ſoft and porous, ſuch as is uſed to filter with.

Chalcanthum, is Vitriol calcined red.

Characters, uſed in Medicine.

♁	Antimony.
🜅	Aqua Fortis.
🜆	Aqua Regia.
🝫	Balneum Mariæ.
🝁	Calx Viva.
🝎	Caput Mortuum.
♀	Copper.
⊖	Common Salt.
🝪	Diſtil.
☉	Gold.
C C	Harts-Horn.
C C C	Harts-Horn calcined.
♂	Iron.
♃	Jupiter, Tin.
♄	Lead.
☿	Mercury.
🜐	——Sublimate.
🜑	——Precipitate.
🜕	Nitre.
🜹	Sal Armoniac.
🜍	Sulphur.
$\overset{S}{\text{V}}$	Spirit of Wine.
$\overset{S}{\text{VR}}$	or S. V. R. Spirit of Wine rectified.
☽	Silver.
🜿	Tartar.
🜖	Vitriol.
℔	A Pound, or a Pint.
℥	An Ounce.
ʒ	A Drachm.
gr.	Grains.
ſs.	Half any thing.
Cong.	A Gallon.
Cochl.	A Spoonful.
M.	A Handful.
P.	A Pugil.
P. Æ.	Equal Quantities.
S. A.	According to Art.
q. ſ.	A ſufficient quantity.

N. B.

℥ i. contains ʒ viii.
ʒ i. ℈ iii.
℈ i. gr. xx.
Cong. i. ℔ viii.
Cochl. i. is about ℥ ſs. and
A Pugil is the eighth Part of a Handful.

Some Authors uſe others, but they are more out of Affectation, than for any real Service, and therefore juſtly neglected by late Writers; and even many of theſe are now ſeldom uſed. Some Enthuſiaſtick Authors alſo ſpeak of particular Characters for driving away Diſeaſes, as by Charms. See *Abbreviations*.

Chemoſis, is that Diſorder of the Eyes wherein their *white* hangs over the *black*, and at the ſame time ſtanding ſo far above it, as ſeems to leave a conſiderable ſpace between the two.

Chieri, or *Keyri*, is now uſed for the *Leucoium luteum*, the Wall-Flower; but Chymiſts formerly expreſſed by it a great many different things, not worth recital here, becauſe now rejected.

China, is an officinal Root ſo called from the Country whence it is brought; but *China China*, or *Quinquina*, is alſo a Name for what is now chiefly known amongſt us for the *Cortex Peruvianus* or *Jeſuits Bark.*

Chiromancy, is the Art of foretelling what will happen to Perſons from the Lines of their Hands, but this hath been long rejected as ridiculous.

Chiragra, from χεὶρ, *Manus*, a Hand, and ἀγρεύω, *capio*, to take, is the Gout in the Hands.

Chirurgery, from χεὶρ, *Manus*, a Hand, and ἔργον, *Opus*, Work, is the Art of a Chirurgeon, ſo called from its great Dependance upon manual Operation, and a peculiar Dexterity therein; tho Cuſtom has ſhortened this in the uſual way of ſpeaking, to Surgery; and Chirurgeon, from the ſame Etymology, to Surgeon. Some Inſtitution-Writers divide this Art into ſeveral diſtinct Branches, but ſuch are not worth notice.

Chives, is a Term in *Botany*, by which Mr. *Ray* expreſſes the *Latin Apices*; but Dr. *Grew* calls the *Stamina*, on which the *Apices* are fixed, the *Chives*.

Chloroſis, from χλωρίζω, to look green, is that Diſtemper in young Women which is called the Green-Sickneſs, becauſe they are generally of a wan ſallow Complexion. It ariſes from a cold heavy Blood, that becomes ſo from the Veſſels being too much crouded with it, and want of Motion enough to keep it duly fluid: and therefore Evacuation and Exerciſe are neceſſary to its Remedy. See Dr. *Freind*'s *Emmenologia.*

Choledocus, from χολὴ, *bilis*, the Bile, and δέχομαι, *recipio*, to receive or contain; is a common Epithet for the Gall-bladder, the ſame with the *Ductus biliarius communis.* See *Jecur.*

Cholick, ſeems ſtrictly and originally to expreſs only a Diſorder of the *Colon*; but Cuſtom has appropriated it to ſignify any Diſorder of the Stomach or Bowels in general that is attended with Pain. And under this looſe Acceptation, may conveniently enough be made theſe four remarkable Diviſions. 1. A bilious Cholick, which is from an Abundance or Acrimony of Choler, that irritates the Bowels ſo as to occaſion continual Gripes, and generally with a Looſeneſs; and this is beſt managed with Lenitives and Emollients, which by degrees purge off and ſoften the offending Humours. 2. A flatulent Cholick, which is Pain in the Bowels from *Flatus*'s and Wind pent up therein, which diſtends them into unequal and unnatural Capacities; and this is managed with Carminatives and moderate Openers. 3. An hiſterical Cholick, which ariſes from Diſorders of the Womb, and is communicated by the Conſent of Parts to the Bowels, and is to be treated with the ordinary Hyſtericks. And, 4. A nervous Cholick, which is from Convulſive Spaſms and Contortions of the Guts themſelves, from ſome Diſorders of the Spirits, or nervous Fluid, in their component Fibres; whereby their Capacities are in many Places ſtraitned, and ſometimes ſo as to occaſion obſtinate Obſtructions: This is beſt remedied by brisk Cathartick, joined with Opiates, and emollient Diluters in plenty at the ſame time. There is alſo a Species of this Diſtemper which is commonly called the Stone-Cholick; which is alſo like the Hyſterical, by Conſent of Parts from the Irritation of the Stone or Gravel in the Bladder or Kidneys: And this is moſt commonly to be treated by Nephriticks, and oily Diureticks, and is greatly aſſiſted with the carminative Turpentine Clyſters.

Chologogues, from χολὴ, *Bilis*, Choler, and ἄγω, *duco*, to draw; are ſuch Medicines as purge Choler, as Rhubarb, and the like.

Choledicus Ductus, is the common Pipe made up of the Union of the *Porus Biliarius* and *Ductus Cyſticus*, which goes obliquely to the lower End of the *Duodenum*, or *Jejunum*, and there empties out the Bile.

Choler. See *Bile*.

Cholera Morbus, is when the Bile ſo exceeds in Quantity or Acrimony, as to irritate the Bowels and Stomach to eject it both upwards and downwards.

Chordé, is an Inflammation and Contraction of the *Frænum* of the Yard that holds the Glands downward, and prevents Erection without Pain. It happens in *Gonorrhæa*'s from the Acrimony of the Matter which runs from the *Urethra*; from *Chorda*, a String or Tendon.

Chorea Sancti Viti, is a Diſtemper ſome phyſical Hiſtories take notice of, which uſed to ſeize Perſons about *May*, which was the time of the Year that they viſited the Chappel of St. *Vitus*; and becauſe it made them leap and frisk about in a ſtrange manner, it was therefore called St. *Vitus*'s Dance: But very probably at that Seaſon of the Year the Females, who were only affected by it, might from ſome Turgeſcency and Repletion of hot Juices be raiſed into thoſe Emotions, which are ſometimes called hyſterical, or by the name of *Furor Uterinus*.

Chorion, is the outer Membrane that involves the *Fœtus*: It is pretty thick, and a little rough on its Outſide, to which the *Placenta* adheres.

Choroides, from the former Derivation, and εἶδος, *Forma*, Shape; is the folding of the Carotide Artery in the Brain, wherein is the *Glandula Pinealis*. The *Uvea Tunica*, which makes the Apple of the Eye, is alſo ſo called, from its Structure.

Chronick Diſtemper, from χρόνος, *Tempus*, Time, is a Diſtemper of Length, and is the Conſequence of ſome natural Defect in the Conſtitution, or an irregular way of living, as Dropſies, Aſthma's, and the like.

Chryſanthemum: all Plants may be ſo called, that blow with a yellow Flower, from χρυσὸς, *Aurum*, Gold, and ἄνθος, *Flos*, a Flower.

Chryſoms, from χρῖσμα, *Unctio*, anointing. Antiently Children were anointed as ſoon as born, with ſome aromatick Compoſitions; and upon the Head they wore an anointed Cloth till they were judged ſtrong enough to endure Baptiſm: after which that Cloth was left off; ſo that between the Birth till then, was accounted a particular Period of the Child's Life, deemed a State of Unction; and hence our Bills of Mortality ſeem to derive their Diſtinction of *Chryſoms* for all who die before they are baptized.

Chyle, is that Juice which the Food is immediately converted into by Digeſtion, which ſee.

Chylification. See *Digeſtion.*

Chymiſtry. A Term, or the Name of an Art ſo little underſtood, or ſo deſignedly kept a Secret, that the World hath never yet been favour'd with a full and genuine Definition or Deſcription of it. 'Tis no leſs than the moſt valuable and conſiderable Branch of all Natural Philoſophy; yet ſhamefully diſeſteemed and trampled upon by thoſe who are perfect Strangers to its wonderful Productions and Uſes. 'Tis in it ſelf the Art of changing all the known Bodies of our Globe in ſuch proper Veſſels by means of certain Agents, and particularly Fire, as to render the *Phænomena* manifeſt to the Senſes. They who deſire to ſee how a falſe chymical Philoſophy, with all its Impoſtures, has been expunged, and uſeful Knowledge advanced in its ſtead, may conſult Dr. *Freind*'s *Prælectiones Chymicæ.* But whoever deſires to know what the Art of Chymiſtry really is, both in the Theory and the Practice, may conſult the learned *Boorhave*'s wonderful Performance on that Head, term'd *Inſtitutiones Chymicæ.*

Chymoſis, or *Chemoſis*, from χαίνω, *hiſco*, to gape; is an Inflammation of the Eye-lids, which turns out their Inſide to ſight.

Cicatricula, is that little whitiſh Speck in the Coat of the Yolk of an Egg, in which the firſt Changes appear towards the Formation of the Chick; 'tis commonly called the Treddle.

Cicatrize, ſignifies to apply ſuch Medicines to Ulcers or Wounds, as heal and skin them over; and hence

Cicatrix, is the Scar or Mark left upon healing a Wound or Ulcer.

Cilia. See *Eye.*

Ciliare Ligamentum, is a Collection of ſmall ſlender Threads that take their riſe from the inner part of the *Tunica Uvea* in the Eye, and thence run towards the prominent Part of the Chryſtalline Humour, which they compaſs in, and connect the *Uvea.* Its Uſe is to contract or dilate the Figure of the Cryſtalline Humour, and to draw it further from, or bring it nearer to the *Uvea*, according as there is occaſion.

Cina Cina, or *China China*, or *Quinquina*; the ſame as the *Jeſuits* Bark.

Cineritious Subſtance, is the external, ſoft, glandulous, and aſh-coloured Part of the Brain, which is alſo called *Cortical.* See *Cerebrum.*

Circulation, of the Blood. This being of the utmoſt Conſequence to a right Apprehenſion of the animal OEconomy, beſides what is ſaid under Blood, the Heart, *Syſtole* and *Diaſtole*, and *Aorta*, which ſee, it may be proper further to take notice here, that the *Vena Cava aſcendens* and *deſcendens* unite in one, and open into the right Ear; where they unite, there is a little Protuberance made by their Coats on the inſide of the Canal, like an Iſthmus, which directs the Blood both of the one and the other into the Ear, and ſo hinders them from ruſhing one upon another. The right Ear in its *Diaſtole* receives the Blood from the *Vena Cava*, which by its *Syſtole* is thruſt into the right Ventricle; (for the tendinous Circle which is at the Mouth of the *Cava*, contracts, and hinders the Blood from returning into it) which at the ſame time is in its *Diaſtole.* In the *Syſtole* of the right Ventricle the Blood is thruſt into the *Arteria*

Pulmonalis (for it cannot return into the Ear, becauſe of the *Valvulæ Tricuſpides*) which communicates with the *Vena Pulmonalis*, that carries back the Blood into the Ear; which in its *Syſtole* thruſts the Blood into the left Ventricle, and which is then in its *Diaſtole*. In the *Syſtole* of this Ventricle the Blood is thruſt into the *Aorta*, (for it cannot return into the Ear, becauſe of the *Valvulæ mitrales*) which carries it thro' all the Body. Now the *Aorta* when it comes out of the Heart, aſcends a little upwards, and then turns downwards from the deſcending Trunk, for the reaſon already given; and from the upper ſide of this turning, the *cervical* and *axillary* Veſſels do ariſe: by this Artifice the Blood collides againſt the ſides of the *Aorta*, its Force is broken, part of it is taken in by the Mouths of the aſcending Branches; but its greateſt part is directed downwards.

But in order to conſider how the Blood circulates in the *Fœtus*, it is neceſſary to obſerve, that in the right Ear, or the lower ſide of the Protuberance of the *Cava*, juſt oppoſite to the Mouth of the *Cava aſcendens*, there is a Hole called *Foramen Ovale*, which opens into the *Vena Pulmonalis*; this Hole has a Valve which ſuffers the Blood to enter the Vein, but hinders it from coming back again. There is likewiſe a Paſſage or Canal which runs from the Trunk of the *Aorta Pulmonalis*, to the Trunk of the *Aorta*. Now the Blood which comes from the *Placenta*, by the Umbilical Vein, into the *Vena Portæ*, is ſent into the *Cava* by a Canal which goes ſtrait from the Trunk of the *Porta* to the Trunk of the *Cava* in the Liver. This aſcends the *Vena cava*, and is directly thrown thro' the *Foramen Ovale* into the *Vena Pulmonalis*, which carries it into the left Ventricle, which throws it into the *Aorta*, to be diſtributed thro' all the Body. But the Blood which comes down the *Cava deſcendens*, is diverted by the Iſthmus of the *Cava* from the *Foramen Ovale*, and falls into the right Ventricle, which thruſts it into the *Arteria Pulmonalis*, from whence part of it is immediately carry'd by the communicating Canal into the *Aorta*. The Reaſon of theſe Paſſages in a *Fœtus*, is, becauſe the Blood could not all paſs thro' the *Pulmonary* Blood-Veſſels, they being too much compreſſed by the Subſtance of the Lungs; but as ſoon as the Child is born, and the Preſſure taken off from the Blood-Veſſels, by the diſtenſion of the Lungs with Air, the Blood finding a free Paſſage thro' the Lungs, runs more by the communicating Canal, whoſe direction likewiſe is not now ſo favourable for its Reception as before; becauſe the *Pulmonary* Artery being ſtretched out with the Lungs, makes it go off at right Angles, and therefore it dries up. And now the *Pulmonary* Vein being diſtended with a greater Quantity of Blood which it receives from the Lungs, the Valve of the *Foramen Ovale* is preſſed cloſe to its ſides, denying a Paſſage to the Blood from the *Cava* to be mixed with the reſt of the Blood; ſo that by this contrivance, the Blood which comes from the *Vena Cava deſcendens* paſſes only thro' the left Ventricle, whilſt the Blood which comes from the *Cava aſcendens* paſſes only thro' the right Ventricle.

From the whole of the foregoing it appears, that both Auricles contract at the ſame time, as likewiſe do the Ventricles; and that when the *Auricles* are contracted, the Ventricles are dilated, and *vice verſa.* To account for this alternate Motion of the Auricles and Ventricles of the Heart, it is neceſſary to conſider, that the Contraction of all the Muſcles is cauſed by the Influx of Blood and animal Spirits into the Cavities of their Fibres; and therefore whenever this ceaſeth, the Contraction of the Muſcles likewiſe ceaſeth; or the Swelling of the Fibres abating, they may be reduced by any ſmall Force to the ſame Length they were before their Contraction; which alone is their natural State, the other being entirely cauſed by an external Force. If therefore there be an equal and continued Influx of animal Spirits, the Contraction of the Muſcles will likewiſe be equal and continual; and if the Influx is unequal and interrupted, the Contraction will be the ſame. What this Influx is, will beſt be learned from the Action of ſuch Muſcles as have no Antagoniſt, and over which the Will has but a ſmall Influence; the moſt principal of which are the Heart, and the Muſcles that dilate the Breaſt in Inſpiration. Now both theſe are alternately contracted and dilated; and conſequently the Blood, or Animal Spirits, do not flow continually into their Fibres, but at ſome intervals of Time to which theſe Contractions anſwer. That they have no antagoniſt Muſcles, is evident to every one who is acquainted with the Structure of the Body; for the Muſcles, which in a quick Expiration accelerate the Motion of the Ribs downwards, are ſo weak as to be of no moment: and that the Preſſure of the Atmoſphere upon the Surface of our Bodies cannot ſupply the Place of Antagoniſt Muſcles, is apparent to any one who conſiders, that the Air within us is always *in Æquilibrio*, with the Air without us; and conſequently the Preſſure of the Atmoſphere can neither promote or retard the Contraction of the Thorax, or the Dilatation of the Heart; and there being no other thing which can influence them, their alternate Contractions and Dilatations muſt be owing to the Influx of Blood or Animal Spirits. There are indeed other Muſcles which have no Antagoniſts, ſuch as the *Sphincter Gulæ*, *Ani*, and *Veſicæ*, which we do not obſerve to be thus alternately contracted and dilated: but the reaſon of this is, becauſe their Force is very weak, and conſequently their Contraction ſmall, and differing ſo little from their Relaxation, as to be imperceptible to us; and perhaps in the ordinary Courſe of Nature they act no otherways than the Fibres of the Arteries do, which when they are dilated by the Blood, contract again by their natural Elaſticity. It may perhaps be objected, that when one ſide of the Face is ſtruck with a Palſy, the other is conſtantly and inceſſantly convulſed; and that therefore the Influx of the Blood and Spirits muſt be continual. But to this it may be anſwered, that when the Swelling which cauſeth the Contraction of the Fibres, ſubſideth, and the Muſcles are relaxed, they will ſtill be ſhortned, till by ſome ſmall Power they are pulled out to their natural Length; which being here wanting, and one Contraction preſently following another, that ſide of the Face will always appear as inceſſantly convulſive. But the natural Bent of the Ribs is downwards, by which the intercoſtal Muſcles are ſtretched out again, as well as by the weak Force of their few Antagoniſts. And when the Fibres of the Heart are relaxed, they are, by the Influx of the Blood into the Auricles and Ventricles, diſtended again till the next Contraction. And that the Muſcles are not in a perpetual State of Contraction, will likewiſe appear from the Nature of the Cauſe of their Contraction, which without doubt is the Rarefaction of the Blood and Spirits in the Cavities of the muſcular Fibres. Now of whatever nature this Rarefaction is conceived to be, it can be but temporary, and muſt quickly ceaſe in ſuch a ſmall Quantity of Fluids, as the Fibres of a Muſcle, or rather as one Veſicle of a Fibre is capable of receiving at a time. Nor will it be of any uſe to affirm that there is a conſtant Supply of freſh Blood and Spirits, which keep up the conſtant Inflation of the Fibres; for this Inflation being cauſed by the Preſſure of the rarify'd Fluids againſt the Sides of the Fibres, whilſt this Preſſure continues, the progreſſive Motion of the Fluids thro' the Fibres muſt be at a ſtop, nor can they move forward again, till the Rarefaction begins to abate, that is, till the Fibres are relaxed; and conſequently the Contraction or Action of the Muſcles muſt ceaſe, before freſh Blood can be rarefy'd. Both Blood and Spirits being then neceſſary for the Inflation of the Muſcles, and we being ſure the Blood moves with a continual Stream, the animal Spirits muſt only drop from the Nerves into the muſcular Fibres, and there rarify the Blood after the manner to be explain'd about muſcular Motion, which ſee. When a Drop falls, the Fibres are preſently inflated, and the Muſcle contracted; as ſoon as the Rarefaction of the Blood is over, the Muſcle is relaxed till the next Drop falls from the Nerves, by which it is contracted again. Thus the *Syſtole* and *Diaſtole* of the Heart regularly follow one another; and this being firſt clearly underſtood, it will be eaſy to give a Reaſon why the Auricles are conſtantly contracted when the Ventricles are dilated, and the Ventricles contracted when the Auricles are dilated, notwithſtanding they have all the ſame Nerves and Blood-Veſſels: For ſuppoſe all of them full of Blood, before the Heart begins to beat, and that the Auricles and Ventricles are ready to contract at the ſame time, yet becauſe the Strength of the Ventricles is much greater than that of the Auricles, they will contract; and by their Contraction hinder that of the Auricles, which endeavour likewiſe to expel the Blood by which they are diſtended, but cannot perform it till the Relaxation of the Ventricles makes room for its reception: and thus their Motions neceſſarily become alternate, without which there could be no Circulation. See *Fibre.*

Circulation, in Chymiſtry, is, when one Body, commonly called a blind Head, is inverted into another in which there is Matter to be digeſted by Heat; whereby what the Heat raiſes is collected, and again falls down into the Veſſel from whence it came, ſo that the fineſt Parts are hereby not loſt, which otherwiſe would fly away.

Circumambient, ſignifies encompaſſing round; ſo thoſe Bodies that lie round another are thus called; but the Body of Air encompaſſing all things on this Globe, is more eſpecially called the Circumambient.

Circumforaneous, from *circum*, about, and *Forum*, a Market, is ſometimes applied to Mountebanks, and ſuch as vend Medicines in that manner about the Countries.

Cirri, in *Botany*, are thoſe fine Strings or Hairs, by which ſome Plants faſten themſelves, for their Support, as Ivy, and the like.

Cirſocele, is the ſame as *Hernia varicoſa*, which *P. Ammianus* deſcribes to be a multitude of *Varices* in the Teſticles, which prodigiouſly encreaſe their Bulk, and hinder their natural Offices; and ſometimes make Caſtration neceſſary.

Ciſt, *Ciſta*, or *Ciſtus*; thus our Surgeons call thoſe Tumours where the obſtructed Matter collects as in a Bag, which may be all taken out at once.

Claret, was the name of a Wine impregnated with *Aromaticks*, which was ſometimes alſo called *Hippocras*, or *Vinum Hippocraticum*, becauſe firſt preſcribed by *Hippocrates*; but it is now out of uſe. *Rulandus* alſo makes it a Name for the white of an Egg, but preſent Uſage does not juſtify ſuch an Interpretation.

Clarification, in Medicine, is the fining Liquors from their groſſer Parts, and is generally done by beating up with the Whites of Eggs, Decoctions and turbid Liquors into a Froth; which upon boiling will entangle the groſſer Parts, and carry them up to the top in a tough Scum; which is either taken off with a Spoon, or ſeparated by a Flannel-Bag, called *Hippocrates*'s Sleeve. Another way alſo is by ſtanding in a convenient Veſſel to ſuffer the groſſer Parts to ſettle, and which is alſo ſometimes promoted by a mixture of ſuch Matter as will give what ſhould ſettle a greater Weight, and make it fall ſooner: as in diſtill'd Waters, which are milky, fine Sugar, with a few Grains of Alum, will carry down the oily Parts, and leave the reſt clear; and this is generally called *Depuration*.

Clavellati Cineres, the ſame as ~~*Pot-Aſhes*~~, which ſee.

Claviculæ, or Channel-Bones, are two in Number, ſituated at the Baſis of the Neck above the Breaſt, one on each ſide; they are pretty long and ſmall: at one end they are joined to the Production of the *Scapula*, called *Acromium*, by the Articulation called *Synchondroſis*; at the other end, to the upper end of the *Sternum* by the Articulation called *Arthrodia*; they are crooked like the Letter S, for the Paſſage of the Veſſels which paſs under them, and to facilitate the Motion of the Arms. Their Subſtance is ſpongious, which renders them ſo eaſy to be broke, and the ſooner to be united when broken. Their Uſe is to ſuſtain the *Scapula* to which the Arms are articulated. And becauſe the pectoral Muſcle which pulls the Arms acroſs the Breaſt, is inſerted near the upper end of the *Humerus*; therefore if the *Clavicule* did not keep the *Scapula*, to which the Head of the *Humerus* is joined, always at an equal diſtance from the *Sternum*, the upper part of the Arm, and not the Hand, muſt have been pulled forwards. The young Shoots alſo by which Vines lay hold of their Support, as with Hands, are ſignify'd by this Term.

Clavis, ſignifies a Key, or any Inſtrument of that Uſe; wherefore ſome Phyſicians give this Name to a Pain in a ſmall part of the Head commonly a little above the Eyes, which ſeems as if that Part was bored thro' as with an Auger; and Dr. *Sydenham* calls ſuch a Pain on the Top of the Head in Hyſterical Perſons, *Clavis Hyſtericus*. Some Chymiſts alſo, from the uſe of this Inſtrument, apply it to many things, to which they aſcribe ſtrange Virtues in opening or unlocking other Subſtances.

Clepſydra, commonly ſignifies a Contrivance to meaſure Time by the running of Sand out of one Glaſs into another; but *Paracelſus* uſes it for an Inſtrument to convey Steams into the Womb.

Climacterical Years, are certain obſervable Years, which are ſuppoſed to be attended with ſome conſiderable Change in the Body; as the 7th Year; the 21ſt, made up of three times ſeven; the 49th, made up of ſeven times ſeven; the 63d, being nine times ſeven; and the 81ſt, which is nine times nine: which two laſt are call'd the grand Climactericks. *Aulus Gellius* tells us, that this Whimſy firſt came from the *Chaldeans*, from whom it is very probable to have come to *Pythagoras*, who was very fond of the Number Seven, and uſed much to talk of it in his Philoſophy.

Climate, is a Space on the terreſtrial Globe comprehended between two Circles parallel to the Æquator; ſo that from the Beginning of one Climate to that of another next to it, there is half an Hour's difference in the longeſt Summer's Day: theſe are alſo divided into Parallels, which is juſt half ſo much; but the former is ſmall enough to diſtinguiſh the different Conſtitution and Temperaments of Air, which this Term is generally uſed to expreſs.

Clinoides, are four Proceſſes in the inſide of the *Os Sphenoides*, forming a Cavity called *Cella Turcica*, in the middle of that Bone in which lies the *Glandula Pinealis*.

Clinick, is generally uſed to ſignify a Quack, or rather an Empirical Nurſe, who pretends to have learned the Art of curing Diſeaſes from Attendance upon the Sick, from κλίνη, *Lectus*, a Bed.

Clitoris, is a long and round Body in the fore-part of the *Vulva*, naturally about the bigneſs of the *Uvula*; it lies within the Skin; nor does any part of it appear outwardly, except its Extremity, which is cover'd with a folding of the Skin, made by the Union of the *Nymphæ*, called its *Præputium*. The Subſtance of the *Clitoris* is compoſed of two ſpongy Bodies, ſuch as thoſe of the Yard; they riſe diſtinctly from the lower part of the *Os Pubis*, and approaching one another, unite and form the Body of the *Clitoris*, whoſe Extremity, which is of an exquiſite Senſe, is called Glans. The two ſpongy Bodies before they unite, are called the *Crura Clitoridis*, and are twice as long as the Body of the *Clitoris*. It has two Muſcles which ariſe from the Protuberance of the *Iſchium*, and are inſerted into its ſpongy Bodies. They erect the *Clitoris* in Coition, after the ſame manner as the Muſcles of the Yard do erect the Yard. It has Veins and Arteries from the *Hæmorrhoidal* Veſſels and the *Pudenda*; and Nerves from the Intercoſtals, which are likewiſe diſtributed thro' all the Parts of the *Vulva*.

Clyſſus, is a Term antiently uſed by the Chymiſts for Medicines made by the re-union of different Principles, as Oil, Salt, and Spirit, by long Digeſtion; but it is not now practiſed, and ſo the Term is almoſt loſt.

Clyſter, *Clyſma*, or *Clyſmus*, called alſo *Enema*, from the *Greek* ἔνεμα, which ſtrictly ſignifies the Injection of a Liquor into any Part, to waſh or cleanſe it; but Cuſtom hath now confined this Term to an Injection into the Fundament, to procure Stool.

Coacus, or *Coan*, is frequently applied to *Hippocrates* or any thing relating to him or his Writings, from his being born in the Iſland of *Cos* or *Coos*.

Coagulation, from *con*, and *ago*, to drive together, is ſuch a Change made in a Fluid, as is the curdling of Milk, whereby ſome more viſcid Parts form Coaleſcencies, and leave the reſt thinner and more fluid. Whence,

Coaleſcence, or *Coalition*, is the gathering together and uniting into a ſenſible Maſs thoſe minute Particles of a Fluid which were before not diſcernible in it. See *Prop.* 16. under *Particle*.

Coaltern Fevers, are ſuch as when two come together periodically, the one invades as the other goes off alternately. See *Bellini* of Fevers.

Cobalt is a poiſonous or corroſive metalline Recrement, containing either Copper, or Silver; the ſame as native *Cadmia*.

Coccus, κόκκος, ſignifies ſtrictly any Grain or Berry; but by the *Coccus Gnidius*, uſed to be only underſtood the Bay-Berry, which grew plentifully in the Iſle of *Gnidos*, in the Time of *Hippocrates*.

Cocciferous, from *Coccus*, a Berry, and *fero*, to bear; all thoſe Plants or Trees are ſo called which have Berries.

Coccygis Os; ſee *Coxæ Os*, and *Vertebræ*.

Coccygæus, is a Muſcle of the *Os Coccygis* ariſing partly tendinous, and partly fleſhy, from the acute Proceſs of the *Os Iſchium*, between the Ligament that reaches from thence to the *Os Sacrum*, and one of the Heads of the *Gemini*: from a narrow Beginning it gradually dilates it ſelf into a thin fleſhy Belly, interſperſed with ſome tendinous Fibres. It is inſerted into the whole Length of the *Os Coccygis* laterally.

Cochlea, is the laſt Cavity of the Ear, and reſembles the Shell of a Snail, which it ſignifies. Its Canal, which winds in a ſpiral Line, is divided into two, the upper and lower, by a thin ſpiral *Lamina*, of which that part next the Axis is bony, but extremely brittle, and that next the outer Shell is membranous, appearing to be only made of the Auditory Nerve. The upper Canal opens into the *Tympanum*, and the lower into the *Veſtibulum*. This is narrower than that, eſpecially towards the Baſis of the *Cochlea*, where each is about a Line wide, and the Baſis it ſelf is about four Lines diameter.

Cochlea, a Screw, one of the mechanical Powers, defined a right Cylinder cut into a furrow'd Spiral: There are two kinds hereof, the *Male* and *Female*, the former being cut convex, ſo that its Threads riſe outwards, but the latter channel'd on its concave ſide, ſo as to receive the former, and fall in with the Threads thereof.

Coction, Concoction, or Digeſtion. The Antients diſtinguiſhed Concoction into ſeveral Stages, but not with any good Reaſon; there being no difference in any thing eſſential thereunto. The Office of the firſt Paſſages indeed, may be more particularly aſſigned to Concoction of the groſſer Food, the Recrements of which are thrown off by the larger Emunctories; and of the Arteries and leſſer Veſſels to the Blood only, which lets off its Recrements by ſmaller Outlets, and chiefly by the Pores of the Skin; but there is nothing materially different in either of theſe Operations, only the former is more cuſtomarily termed Concoction, and the latter Digeſtion, tho the laſt is alſo applied to the firſt Paſſages. See *Digeſtion.*

Coction, in a medicinal Senſe, ſignifies that Alteration, whatever it be, or however occaſion'd, which is made in the crude Matter of a Diſtemper, whereby it is either fitted for a Diſcharge, or rendred harmleſs to the Body. This is often brought about by Nature, as we ſpeak, that is, by the *vis Vitæ*, or the Diſpoſition or natural Tendency of the Matter it ſelf, or elſe by proper Remedies, which may ſo alter its Bulk, Figure, Coheſion, or give it a particular Determination, ſo as to prevent any further ill Effects, or drive it quite out of the Body. And that time of a Diſeaſe wherein this Action is performing, is called its *State of Coction.*

Cocculus Indicus, is a poiſonous narcotick Berry, known moſtly now to Poachers, who have got a Trick of intoxicating Fiſh therewith ſo as to take them out of the Water with their Hands; for which reaſon they are called *Baccæ Piſcatoriæ*, Fiſhers Berries.

Codia, in Botany, ſignifies the Top or Head of any Plant, but is by way of Preheminence attributed to the Poppy; wherefore the Syrup made therewith is called *Diacodium*, from διὰ, *cum*, with, and κωδία, the Poppy-head.

Codoſcelæ, ſo *Fallopius* calls venereal Buboes in the Groin.

Cœcum. See *Cæcum Inteſtinum.*

Cœlia, from κοῖλος, *cavus*, hollow, ſignifies any Cavity. Hence

Cœliac Artery. The firſt large Artery is ſo called, which is detached from the deſcending Trunk of the *Aorta* into the *Abdomen.* It divides into two Branches, the one on the right, the other on the left, of which the firſt gives the *Gaſtrica dextra*, which goes to the Stomach; the *Ciſtica*, which goes to the Gall-bladder, the *Epiplois dextra* to the *Omentum*, the *Inteſtinalis* to the *Duodenum* and to a part of the *Jejunum*, the *Gaſtro-Epiplois* to the Stomach, to the *Omentum*, and ſome Branches to the Liver, which enter the *Capſula communis* to accompany the Branches of the *Vena Porta*: The left Branch of the *Cœliaca* gives the *Gaſtrica dextra*, which is alſo ſpread on the Stomach, the *Epiplois ſiniſtra* to the *Omentum*, and the *Splenica* to the Subſtance of the Spleen.

Cœliac Paſſion, alſo for the ſame Reaſon is uſed to expreſs a *Diarrhœa*, or a Flux that ariſes from the Indigeſtion or Putrefaction of Food in the Stomach and Bowels, whereby the Aliment comes away little altered from what it was when eaten, or changed like corrupted ſtinking Fleſh.

Cohobation, is the returning any diſtill'd Liquor again upon what it was drawn from, or upon freſh Ingredients of the ſame kind, to have it the more impregnated with their Virtues.

Coheſion, from *con*, and *hæreo*, to ſtick together. This is a Property of Matter that has taken up a great deal of Time, and a great many Volumes to explain, and but with little Satisfaction, until the Dawn of a new Philoſophy, and a better way of Reaſoning, from Sir *Iſaac Newton.* And becauſe it is of the moſt conſequence to be underſtood of any one thing within the Compaſs of *Phyſicks*, it will be neceſſary to take ſome pains in its Explication. The famous *Bernouli*, in his Book *de Gravitate Ætheris*, endeavours to account for this from the Preſſure of the Atmoſphere, and ſtrengthens his Conjecture by the known Experiment, of the Coheſion of two well poliſh'd Marbles together, which will notwithſtanding very eaſily and ſpeedily fall aſunder, when put into the exhauſted Receiver, where the external Preſſure of the Air is taken off: and to this uniform Preſſure it is conjectured, that all Parts and Parcels of Matter upon the Earth are kept together in the Form under which they exiſt. But how ſatisfactorily ſoever this may account for the Coheſion or Union of Compoſitions, or greater Collections and Parcels of Matter, yet it is wanting in thoſe minute Contacts of leſſer Bodies, ſome of which cohere with a Force ſo much greater than the Preſſure upon them can be imagined to influence; and on which Coheſion, the different Degrees of Solidity and Fluxility do ſo depend, that there is a neceſſity of Recourſe to ſome other Cauſe. And this Sir *Iſaac Newton* has taught to be a Property in all Matter, which he calls Attraction, (which ſee;) whereby the Particles of all Bodies do draw one another with a certain Force, which acts moſt intenſly when the Particles touch one another. Dr. *Cheyne*, upon this Theory, further takes into conſideration the Plainneſs of the Surfaces of the cohering Parts of Matter, in order to account for this Property; which indeed ſeems a neceſſary Requiſite. He thinks we may ſuppoſe ſome of the primary Atoms of Matter of which Bodies are conſtituted, to be terminated with plain Surfaces on all ſides; and ſuch produce Bodies of the ſtricteſt and firmeſt Coheſion: others may be terminated partly with curve as well as partly with plain Surfaces, and theſe combined may produce Bodies of a middle Degree of Coheſion; and ſuch as have Surfaces entirely Curves may produce Fluids, *&c.* But this alone will not do, for tho it will bring Bodies to immediate Contact, it will not keep them there, nor hinder them from being ſeparated by any Force, how ſmall ſoever: And the Fluids which ſurround our Globe, as the Particles of Light and Air, will get in between the Surfaces of Bodies when they are at any diſtance greater than the Diameters of the conſtituent Particles of thoſe Fluids, and ſo by their lateral Preſſure will deſtroy the Efficacy of the attractive Force by which Bodies cohere: For ſince Light and Bodies act mutually upon one another, and that the Particles of Air endeavour to recede one from another, they will render that Part of Attraction whereby Bodies cohere, altogether inſenſible at any diſtance greater than the Length of the Diameters of the Particles of theſe Fluids: ſo that the Force by which Bodies cohere, cannot act but at very ſmall diſtances; and is much greater in immediate Contact, than at any diſtance, how ſmall ſoever.

Coincident, from *con* and *incido*, to fall in together. Thoſe Symptoms or Signs of a Diſeaſe are ſo called which are not to be rely'd on ſeparately, but in conjunction amount to a Diſcovery of the Diſeaſe. The Pulſe is alſo ſaid to coincide, when a Stroke happens beyond Expectation, and is by *Galen* oppoſed to a deficient Pulſe. *Coincident*, is alſo by phyſical Writers uſed in much the ſame ſenſe as the former Part of the Explanation to the foregoing Term.

Coitus, ſignifies ſtrictly the Conjunction of Male and Female in the Act of Generation; whence ſome Chymiſts uſe it for the Union of ſome Subſtances with one another by Incorporation or Mixture; and *Scribonius Largus* particularly expreſſes by it, the boiling up different things into a Conſiſtence for Plaiſters.

Colcothar, is the dry Subſtance which remains after Diſtillation, but commonly meant of the *Caput Mortuum* of Vitriol.

Cold, is one of the primary Qualities of Bodies, and is ſuch a State of the minute Parts of any Body, in which they are more ſlowly or faintly agitated than thoſe of the Organs of Feeling; ſo that it is only a relative Term, the ſame Body being liable to be pronounced hot or cold as its Particles are in a greater or leſſer Motion than thoſe of the ſenſatory Organs. As for the Diſputes concerning its poſitive and privative Nature, and ſuch like uſeleſs Diſtinctions, they are not worth examining. See *Freezing*.

Colla, *κόλλα*, *Gluten*, ſignifies any thing glutinous; whence the Iſinglaſs is called *Ichthyocolla*, from ἰχθὺς, *Piſcis*, a Fiſh, and the former, becauſe it is a Glue made from the Fleſh of a Fiſh. And hence

Colleticus, is uſed by ſome Writers to expreſs any thing which hath a glutinous Faculty.

Collection of Humours, is when the Matter of a Diſeaſe or pure *pus*, comes together ſlowly, and is depoſited by degrees upon any Part; but when the ſame thing happens of a ſudden, 'tis call'd a Fluxion of Humours.

Colliciæ, is uſed by *Steno*, *de Muſc. & Gland.* for the *Carunculæ Lachrymales*; which ſee.

Colliquamentum, is a Term firſt made uſe of by Dr. *Harvey*, in his Application of it to the firſt Rudiments of an Embryo in Generation.

Colliquation, is the melting of any thing whatſoever by Heat; but is more particularly uſed to expreſs ſuch a Temperament or Diſpoſition of the animal Fluids as proceeds from a lax Compage, and wherein they flow off thro' the ſecretory Glands, and particularly thro' thoſe of the Skin, faſter than they ought; which occaſions Fluxes of many kinds, but moſtly profuſe, greaſy, clammy Sweats. The Remedy of this is in giving a better Conſiſtence to the Juices by Balſamicks and Agglutinants, and hardening the Solids by Subaſtringents. Hence a

Colliquative Fever, is ſuch an one as is attended with a *Diarrhœa*, or profuſe Sweats, from too lax a Contexture of the Fluids.

Colliſion, from *collido*, to ſlide together, or againſt one another; is ſuch a Motion of two or more Bodies, as is in contrary Direction, whereby they meet and claſh, ſo as to break off ſometimes ſome Parts of each other.

Collum, ſignifies properly only the fore-part of the Neck: And the *Vagina*, and opening into the Womb, is ſometimes called *Collum Uteri*.

Collyrium, from *κωλύω*, *inhibeo*, to check, and ῥοῦς, *Fluxio*, a Defluxion; is a Medicine to check any Fluxion of Humours, of which there were antiently two Forms, one dry, like a Lozenge, ſometimes diſtinguiſhed by the Name of *Sief*, and the other liquid: but Cuſtom now applies this Term only to particular Applications for the Eyes.

Colon: This is the greateſt and wideſt of all the Inteſtines, and about eight or nine Hands breadth long. It begins where the *Ilium* ends, in the Cavity of the *Os Ilium* on the right ſide; from thence aſcending by the Kidney on the ſame Side, it paſſes under the concave Side of the Liver, to which it is ſometimes tied, as likewiſe to the Gall-bladder, which tinges it yellow in that Place; then it runs under the Bottom of the Stomach to the Spleen in the left Side, to which it is alſo knit; from thence it turns down to the left Kidney; and thence paſſing in form of an *S*, it terminates at the upper-part of the *Os Sacrum* in the *Rectum*. At the beginning of this Gut there is a Valve formed by the Production of the inmoſt Coat of the Inteſtines in this Place; it hinders the Excrements which are once fallen into the *Colon* from returning again to the *Ilium*. It has a ſtrong Ligament, which running along its upper-ſide from the *Ilium* to the *Rectum*, ſtrengthens it againſt the Weight of the Excrements, and draws it together into Cells, which with the *Valvulæ Conniventes* retard the Paſſages of the Excrements, that we may not be continually obliged to go to ſtool. The fleſhy Fibres of its ſecond Coat are greater and ſtronger than thoſe of the other Inteſtines, becauſe a greater Strength is requiſite to cauſe the Excrements to aſcend. The chief Deſign of the *Colon*'s ſurrounding the *Abdomen*, and with the *Rectum* touching all the Parts contained in it, ſeems to be, that by immediate Fomentation with Clyſters. we might eaſe them of their Maladies.

Colour, is a very conſiderable *Phænomenon* in Nature that has long perplexed Philoſophers to account for; but as far as our Senſes and Capacites of Reaſoning therefrom will conduct us in the Properties and Agency of ſuch minute Parts of Matter as are herein concerned, Sir *Iſaac Newton* ſeems to have carried us: His Diſcoveries hereupon are to this effect. 1. That Light conſiſts of an infinite number of Rays, right-lined and parallel, but of different Degrees of Refrangibility when meeting with a different Medium. 2. Each Ray according to its Degree of Refrangibility, when ſo refracted, appears to the Eye of a different Colour. 3. The leaſt refrangible Rays appear of a deep Scarlet, the moſt refrangible appear of a Violet-blue, the inter-mediate proceeding from Scarlet to Yellowiſh, then to Light-green, and ſo to Blue. 4. The Colours ariſing from the different Refrangibility of Light, are not only the more noted Colours of Red, Yellow, Green, Blue; but alſo all the inter-mediate of Red to Yellow, of Yellow to Green, *&c.* differing as the Degrees of Sound from grave to acute; in which there are not only the Notes of common Denomination, but alſo indefinite inter-mediate Degrees of Sounds, which are as diſtinct different Sounds as the other. 5. Whiteneſs (ſuch as the Sun's Light appears) containing all theſe Degrees of Refrangibility, is conſequently made up of all the above-mentioned Colours. 6. Simple or homogeneal Colours are ſuch as are produced by homogeneal Lights or Rays, that have the ſame Degree of Refrangibility; and mixt Colours are ſuch as are produced by Rays of different Refrangibility. 7. Rays of the ſame Refrangibility produce the ſame Colour, which Colour is not alterable by repeated Refractions, only made more ſtrong or faint, as the Rays are united or ſcattered. 8. All Bodies appear of this or that Colour, according as their Surfaces are adapted to reflect only the Rays of ſuch a Colour, or (at leaſt) in more plenty than the reſt.

Colophonia, or according to *Scribonius Largus*, *Colofonia*, is now commonly uſed for any Pitch or Reſin, made by the Exhalation or drawing off the thinner Parts of terebinthinous Juices; tho *Paracel-*

ſus ſeems to mean by it what is now preſcribed by the Name of *Terebinthina cocta* : but the Antients, and particularly *Galen*, ſeemed to underſtand by it a ſoft kind of Maſtich, from *Chio*, probably the ſame as our *Chio* Turpentine.

Coloſtrum, is the firſt Milk in the Breaſts after Delivery, according to ſome Authors; but *Bartholine* applies it to an Emulſion made by the Solution of Turpentine with the yolk of an Egg.

Colubrina, the Biſtort, or Snake-Weed, is ſometimes ſo called; and the

Colubrinum Lignum, is ſometimes applied to the Snake-Root that we have from *Virginia*, becauſe of its ſuppoſed Virtues againſt the Bite and Poiſon of Serpents.

Colum, is uſed for a ſtrainer of Liquids, as *Cribrum* is of Solids.

Columba, every one knows properly to ſignify a Dove; but ſome Enthuſiaſtick Chymiſts have made it ſtand for ſeveral of their Preparations, from ſome imaginary Likeneſs of their Virtues to thoſe of this Bird.

Columella, is ſometimes applied to an Inflammation of the *Uvula*, when it is extended in length like a little Column.

Columnæ Cordis, the Pillars of the Heart. See *Heart*.

Columna Naſi, is that fleſhy Part of the Noſe which is prominent in the middle.

Coma, ſignifies a Propenſity to Sleep, not unlike what is meant by a *Lethargy*, which is not ſo aggravated with an entire Loſs of Senſation as in a confirmed *Apoplexy*.

Coma ſomnolentum, is an uniform deep and diſtemper'd Sleep, from which the Patient being awaked, ſuddenly relapſes into it again.

Coma vigil, is an inſuperable diſpoſition to ſleep, from which the Perſon frequently awakes as from a frightful Dream.

Commetica, the ſame as *Fucus*, or *Ars fucalis*, are ſuch things which give Beauties not before in being, as Paints to the Face; differing from Coſmeticks, which are only to preſerve Beauties already in poſſeſſion.

Communicant, is by *Bellini* applied to Fevers of two kinds afflicting the ſame Perſon, wherein as one goes off the other immediately ſucceeds.

Completion, is by the antient Writers uſed in various Acceptations; but latterly it ſignifies only the ſame as a *Plethora*, which ſee.

Complexion, now generally ſignifies the ſame with Temperament; as we ſay ſuch a one is of a ſanguine, a phlegmatick, or a cholerick Complexion; tho heretofore it hath been uſed in the ſame ſenſe as *Complication*, which ſee.

Comitialis Morbus. See *Epilepſy*.

Comminution, is grinding or breaking any Matter into ſmaller Particles.

Common Duct. See *Jecur*.

Common Receptacle. See *Lacteal Veins*.

Common Senſory, is the Origin of the Nerves, or whereſoever the reflux Motion of the nervous Fluid gives the Perception of external Objects.

Compage, is any Collection or Compoſition of Matter, modify'd into a particular Form, to anſwer ſome particular End.

Comparative Anatomy, is that kind of Anatomy as conſiders the ſame Parts of different Animals with relation to that particular Structure and Formation as is moſt ſuited to the Manner of living, and Neceſſities

ceſſities of every Creature: As in the comparative Anatomy of Stomachs, for inſtance, it is remarkable that thoſe Creatures which have the Opportunities of frequent feeding have their Stomachs very ſmall in compariſon to ſome Creatures of Prey, which may probably be under a neceſſity of faſting for a great while, and therefore have Stomachs large enough to hold Food ſufficient for a long time.

Complexus, is a Muſcle of the hinder Part of the Head that ariſes from the tranſverſe Proceſſes of the *Vertebræ* of the Neck, and aſcending obliquely, adheres to the *Spine* of the ſame *Vertebræ*, and is inſerted into the *Occiput*. It moves the Head backwards to one Side.

Complication of Diſeaſes, is when a Perſon labours under divers Diſtempers at a time, and more eſpecially if they have any affinity to one another; as the Dropſy, Aſthma, and Jaundice, or the like, which frequently happen together to the ſame Perſon.

Compoſition: beſides the confuſed manner in which the vulgar Chymiſts uſe this Term, not worth our Notice, it is now ſeldom uſed but for Medicines which take in ſeveral Ingredients, in oppoſition to *ſimple*, tho heretofore it hath been alſo applied in the ſame ſenſe as Complication.

Compound Medicine, is what conſiſts of more Ingredients than one.

Compreſs, is the Way by which with Bolſters of Linen Rags, Surgeons ſuit their Bandages for any particular Part or Purpoſe; and hath ſo long ago as *Avicen* been uſed for ſuch Contrivances as prevent the Flux of Matter upon any Part.

Conarion, alſo called *Glandula Pinealis*, (*Des Cartes*'s imaginary Seat of the Soul) is a ſmall Gland about the bigneſs of a Pea, in the upper Part of that Hole in the third Ventricle of the Brain, called the *Anus*, and is tied by ſome Fibres to the *Nates*. It is compoſed of the ſame Subſtance as the reſt of the Brain, and is of the ſame uſe.

Conatus, in Matter without Motion, is the Force of Attraction or Gravitation; which ſee: And in a Body in motion, is that Diſpoſition or Aptitude to go on in a right Line, if not prevented by other Cauſes.

Concatenation, is ſuch a Union or Repetition of Parts in a Body, as thoſe of a Chain, from *cum*, with, and *Catena*, a Chain.

Concave, is any thing made hollow on one ſide.

Concentration, is a crouding together any fluid Matter into as cloſe a Form as it is capable of; or bringing together into as cloſe a Contact as poſſible any ſeparate Particles: But the Generality who make uſe of this Term have a very vague Idea thereof, of no diſtinct Signification.

Conception. The great and many Difficulties which attend the moſt plauſible Account of the firſt Formation of the Parts of an Animal, and Beginning of Motion in its Fluids, and the curious Obſervations of many Perſons, have been ſufficient Motives to moſt of late Years to throw off the Notion of equivocal Generation. But tho Reaſon and Experience convince us that all the Parts of an Animal did exiſt, and its Fluids were in motion before Generation: yet whether the *Animalcule* was lodged in the Seed of the Male, or the Female *Ova*, is matter of Controverſy. But the Arguments on both ſides leave this without queſtion, that the Female *Ovum* is a proper *Nidus* for the

Animalcule in the Male Seed. There are ſuch a prodigious number of little Creatures, like ſo many Tadpoles, ſwimming every way in the Male Sperm of all Animals, as is an amazing Sight: Nor is it leſs curious to obſerve their languid Motion in ſuch as are tainted with the Venereal Diſeaſe, and how they recover their former Briskneſs as the Diſtemper abates. Theſe Animals are ſo ſmall as to be computed that 3,000,000,000 of them are not equal to one Grain of Sand, whoſe Diameter is but the $\frac{1}{100}$ of an Inch. Whilſt the Seed thus abounds with *Animalcules*, there are not the leaſt Rudiments of an Animal to be ſeen in any Part of the *Ovaria*; yet theſe likewiſe have a principal part in Generation, for without them there is no Conception: and even Bitches that have been ſpayed forget their uſual Appetites, as if they were the only Spurs to Venery. The yellow Subſtance which grows in the *Ovaria* of Cows is very remarkable; it has a ſmall Dent, and a Cicatrice in its Middle, as if the *Ovum* had dropped out there, according to *Malpighi*. When the *Fœtus* is very ſmall, this is very large; but as the *Fœtus* grows bigger and bigger, this decays, and at laſt vaniſhes: nor is it to be ſeen before Conception, and in one Teſticle only when there is but one Calf. If all the *Animalcules*, as a great many of them do, faſten and grow to the Womb till ſuch time as by their Bigneſs or want of Nouriſhment they made one another drop off, Women could not be ſenſible of their Evacuation, for they muſt be falling off, thro' the whole time of their being with Child. But when the *Animalcule* gets into an *Ovum* fit to receive it, and this falls thro' one of the *Tubæ Fallopianæ* into the Womb, the Humours which diſtil thro' the Veſſels of the Womb, penetrating the Coats of the Egg, ſwell and dilate it, as the Sap of the Earth does Seeds thrown into the Ground. Or elſe the Branches of the Veins and Arteries whereby the Egg was tied in the *Ovarium* (which probably make the umbilical Veſſels) being broken, faſten with the Veſſels of the Womb: then the *Placenta* begins to appear like a little Cloud upon one ſide of the external Coat of the Egg; and at the ſame time the *Spine* of the *Embryo* is grown ſo big as to be viſible; and a little after the *Cerebrum* and *Cerebellum* appear like two ſmall Bladders, and the Eyes next ſtand goggling out of the head; then the beating of the Heart, or *Punctum Saliens*, is plainly to be ſeen, and the Extremities diſcover themſelves laſt of all. See *Generation, Parts of*, proper to Women.

Conception Falſe. See *Mola.*

Concha. See *Cochlea.*

Concoagulation, is uſed by Mr. *Boyle* to expreſs the Cryſtallizing of Salts of different kinds together, where they ſhoot into one Maſs of various Figures, ſuitable to their reſpective kinds.

Concoction, commonly ſignifies the ſame as Digeſtion, tho the latter is more generally confined to what paſſes in the Stomach; whereas this alſo is applied to what Alterations are made in the Blood Veſſels, which may be called the ſecond Concoction, and that in the Nerves, Fibres, and minuteſt Veſſels, not improperly called the third, and laſt Concoction.

Concrete, and *Concretion*, from *cum*, and *creſco* to grow together, is the Compoſition or Union of ſeveral Particles together into a viſible Maſs, whereby it becomes of ſome particular Figure and Property.

Concupiſcence, ſtrictly ſignifies the craving of any Appetite, but is moſt commonly applied to that of Venery.

Condenſation, is confining or driving any Fluid into a leſs compaſs in the ſame manner as explained under *Concentration*; but its uſual Signification is ſuch a Stoppage and Collection of Vapour as is made by the Top of an Alembick, whereby it is returned in the Form of a Liquid; or as is raiſed into a Head or Receiver, there to harden into a permanent and ſolid Subſtance, as in Sublimations of all kinds.

Condenſer, a ſtrong metalline Veſſel, wherein to croud the Air, by means of a Syringe faſten'd thereto. The Deſign of it is to be converſe of the Air-Pump; ſo that as by means of that, Bodies are included in a highly rarify'd Air, this might give an opportunity of committing them to Air highly condenſed.

Condimentum, and *Conditura*, are uſed to ſignify thoſe Pickles or Liquors, in which other Bodies are preſerved from Decay: the Perſon doing this is the *Conditor*, and the thing ſo preſerved the *Conditum*. But all this Branch of Pharmacy is now the Buſineſs of him we call a Confectioner.

Conductor, is an Inſtrument to put up into the Bladder, to direct the Knife in cutting for the Stone: from *conduco*, to lead.

Condyloma, from κόνδυλος, *Digiti Articulus*, is the knitting of the Bones in Articulation, but more particularly thoſe of the Fingers.

Condylomata, are a ſoft kind of Tumour ariſing on the internal Coat of the *Anus*, unattended with Pain, and of the natural Colour of the Skin.

Condyli, are the little Knots or Protuberances of thoſe ſhort Bones which make them thick about their Articulations, as on the Knuckles.

Cone, is a ſolid Figure, whoſe Baſe is a Circle, and is produced by the Revolution of the Plane of a right angled Triangle round the perpendicular Leg; and in Anatomy a Conical Veſſel is ſuch an one as from one End continually grows narrower towards the other, till it terminates almoſt in a Point; and ſuch are the Arteries, except in a very few Places, where for manifeſt Ends, they become Cylindrical. In what reſpects this affects the circulating Fluid, ſee *Circulation* and *Aorta*.

Confection, may ſignify any Compoſition, from *cum*, and *facio* to make up together; but it is generally applied to a particular ſort of Medicine, compounded with dry Ingredients of many kinds, powder'd and made into the Conſiſtence of a thin Electuary with Honey or Syrup.

Confluent, flowing together, are any Liquors joining into a common Stream; but this is generally uſed for that ſort of the Small-Pox wherein the Puſtles run into one another.

Confluxion, σύῤῥοια, is uſed much by *Hippocrates* and his Interpreter *Galen*, in the ſame ſenſe as we uſe *Conſent*, and *tranſpirable*, from a Notion that Parts at a diſtance have mutual Conſent with one another, and that they are all perſpirable by many ſubtile Steams. *Paracelſus* according to his way expreſſes the former by Confederation.

Conformation, is uſed to expreſs that particular Make and Conſtruction which is peculiar to every Individual:

dividual: and hence a *mala Conformatio* ſignifies ſome Fault in the firſt Rudiments, whereby a Perſon comes into the World crooked, or with ſome of the *Viſcera* or Cavities unduly proportioned. Thus many are ſubject to incurable Aſthma's, from too ſmall a Capacity of the *Thorax*, and the like.

Conficatrices, or *Confictrices*, are uſed by many Authors for ſuch Women who have learned to titulate one another with their *Clitoris*, in imitation of venereal Intercourſes with Men.

Confuſæ Febres, are ſuch Fevers which come together alternately in the ſame Perſons, but keep not their Periods and Alterations ſo exactly, as to be eaſily diſtinguiſhed from one another.

Congelation, from *congelo* to freeze together, expreſſes the ſame as Cryſtallization, becauſe in that the Salts ſhoot together, as Ice in Freezing. It is alſo applied to Liquors which will not properly freeze, as by *Scribonius Largus* to Oils; and by *Rulandus* with many others to any Fluids which by ſtanding become of a thicker Conſiſtence. By ſome it is likewiſe applied to Diſtempers that occaſion ſtiffneſs, and inaptitude to Motion; and others call thoſe who ſeem to loſe their Senſes in Extaſy, *congelati*, Perſons froze.

Congeſtion, the ſame as Collection of Matter, as in Abſceſſes and Tumours.

Congeries, from *congrego*, to gather together, is a Collection or Parcel of Bodies gathered together into one Maſs or Compoſition.

Conglobate, and

Conglomerate Gland. See *Gland*.

Conglutination, from *cum*, together or with, and *Gluten*, Glue; is the uniting Parts of the Body together by means of their natural Moiſture, and the help of Bandage, or by the ſupply of viſcid Particles: and in the laſt Acceptation it differs little from Accretion or Nouriſhment.

Congruity, is uſed to expreſs that Aptitude in ſome Bodies to unite and incorporate from a Similitude or Fitneſs of their Figures, as Incongruity is an Unfitneſs of their Surfaces to join together. Thus Quickſilver will unite with Gold, and many other Metals, but will roll off from Wood, Stone, Glaſs, &c. and Water that will wet Salt and diſſolve it, will ſlip off from Tallow without adhering to it, as alſo from a duſty Surface, and from the Feathers of Water-Fowl. Two Drops of Water, or of Mercury, will on contact immediately join and coaleſce; but Oil of Tartar poured upon Quickſilver, and Spirit of Wine on that Oil, and Oil of Turpentine on that, and Air over all, will remain in the ſame Veſſel without any manner of Union or Mixture with each other: and the Cauſe of this is, that the Figures of ſome Bodies will not admit other Bodies near enough to be within their Spheres of Attraction, whereby they cannot join and cohere; but where their fitneſs of Figure will let them approach near enough to feel each other's attractive Power, they cloſe and hold together.

Coniferous, from *Conus* a Cone, and *fero* to bear, are ſuch Trees, Shrubs, or Herbs, as bear a ſquammoſe ſcaly Fruit, of a woody Subſtance, and a Figure approaching to that of a Cone, in which there are many Seeds; and when they are ripe, the ſeveral Cells or Partitions in the Cone gape or open, and the Seeds drop out. Of this kind are the Fir, Pine, Beech, and the like.

Conjugation, being by ſome uſed in the ſame ſenſe as *Conjugium*, and *Copulation* : *Paracelſus* and ſome other Chymiſts apply it to particular Mixtures of ſeveral things together.

Conjuncta Cauſa, is the ſame as *Continens*, which ſee; and *Conjuncta Signa* or *Symptomata* are, according to *Bellini de Febribus*, ſuch as ſubſiſt during the Courſe of a Diſtemper; and are ſometimes alſo called *Concomitantia*, in diſtinction from the *Antecedentia*, and *Subſequentia*. And,

Conjuncti Morbi, are when two or more Diſeaſes come together, which are diſtinguiſhed into *Connexi* and *Conſequentes*, the former ſubſiſting at the ſame time, and the latter following one another.

Conjuration, according to *Paracelſus*, expreſſes the Ceremony directed by ſome Enthuſiaſts for the Cure of Diſtempers, wherein Perſons laid themſelves under Obligations by Oath, and certain Imprecations; and whence probably comes our common Term of *Conjurer*, who is a Perſon ſuppoſed to deal in diabolical Inchantments.

Connatus, συγγενὴς, uſed much by *Hippocrates*, for what is born with a Perſon; the ſame with *congenite*; as

Connutritus, σύντροφος, is what becomes habitual to a Perſon from his particular Nouriſhment, or what breaks out into a Diſeaſe in proceſs of Time, which gradually had its Foundation in the firſt Aliments, as from ſucking a diſtemper'd Nurſe or the like.

Conſequentia, the ſame as *Subſequentia*, which ſee under *Conjuncta Signa*.

Conſervativa Medicina, called by the *Greeks* φυλακτικὴ and ὑγιεινὴ, is that part of a Phyſician's Care that preſerves a Perſon in Health, by preventing the attack of a Diſtemper, in diſtinction from the pharmaceutick, which applies Remedies to the diſeaſed.

Conjunctiva Tunica. See *Adnata Tunica*.

Conniventes Valvulæ. See *Inteſtines*.

Conſent of Parts, is that Perception one part has of another at a diſtance by means of ſome Fibres and Nerves which are common to them both, or communicated by other Branches with one another: and thus the Stone in the Bladder, by vellicating the Fibres there, will affect and draw them ſo much into Spaſms, as to affect the Coats of the Bowels in the ſame manner by the intermediation of nervous Threads, and cauſe a Cholick there; and alſo extend their Twitches ſometimes ſo far as the Stomach, and occaſion grievous Vomitings. And the Remedy therefore in ſuch Caſes is to regard the Part originally affected, how remote and grievous ſoever may be the Conſequences and Symptoms in other places.

Conſerve, is a Form of Medicine contriv'd to preſerve the Flowers, Herbs, Roots, Peels, or Fruits of ſeveral Simples, as near as poſſible to what they are when freſh gathered. And this is done with Sugar; a triple Quantity to thoſe which are moſt moiſt and corruptible, and a double Quantity to ſuch as are leaſt ſo. See the *Diſpenſatory*.

Conſiſtence, from *conſiſto*, to ſtand together, is the particular Degree of Hardneſs or Softneſs of any Body, when joined with an Adjective expreſſive of that Condition: but when we ſay a

Conſiſtent Body, it is ſuch a one as will preſerve its Form without being confined by any Boundary, and has no degree of Fluxility.

Conſolidate, from *cum* and *ſolidus*, to harden together, is generally uſed to expreſs the uniting and hardning of broken Bones, or the Lips of Wounds. And the Medicines uſeful in theſe Intentions are commonly called, *Conſolidating Medicines*.

Conſtipation, and *Conſtriction*, from *conſtringo*, to bind together, is the binding up Wounds, or cloſing the Mouths of Veſſels ſo as to prevent any Efflux of their Contents.

Conſtrictores, from the ſame Derivation, are Muſcles of the Noſe, called alſo *Depreſſores Labii ſuperioris*, Depreſſors of the upper Lip, which ariſe from the fourth Bone of the upper Jaw, immediately above the Gums of the *Dentes Inciſores*, and aſcending are inſerted into the Roots of the *Alæ Naſi*, and ſuperior parts of the upper Lip; they draw the upper Lip and *Alæ Naſi* downwards. There is alſo the

Conſtrictor Labiorum, which runs its Fibres quite round the Lips, and in Action purſes them up; for which reaſon it is called likewiſe *Oſculatorius*, or the Kiſſing Muſcle. All the Sphincters are of this kind.

Conſtituent Particles, of any natural Body, are thoſe Particles of which that Body is compoſed.

Conſumption, from *conſumo* to waſte; in general ſignifies a defect of Nouriſhment, or the decaying of the Body, and particularly by a waſte of muſcular Fleſh: It is frequently attended with a Hectick Fever; and is divided by Phyſicians into ſeveral Kinds, according to the Variety of its Cauſes, which muſt carefully be regarded in order to a Cure. See *Morton de Phthiſi*, and the *Theatrum Tabidorum*.

Contact, or *Contiguity*, from *contango* to touch together, is the joining one Surface to another without any Interſtice; and hence becauſe very few Surfaces are capable of touching in all points, and the Coheſion of Bodies is in proportion to their Contacts, thoſe Bodies will ſtick faſteſt together which are capable of the moſt Contact.

Contagion, from the ſame Derivation, is the communicating or transferring a Diſeaſe from one Body to another, by certain Steams or Effluvia tranſmitted from the Body of a ſick Perſon. Some Diſeaſes are thus propagated by an immediate Contact or Touch, as the Madneſs of a Dog, which is communicated by biting; and the Venom of the venereal Diſeaſe, which is tranſmitted from the infected Perſon in the Act of Copulation: and ſometimes a Diſtemper is conveyed by infected Clothes, as the Itch; and there are ſome Contagions tranſmitted thro' the Air to a great diſtance, as the Plague, and other peſtilential Diſtempers; in which Caſes the Air is even ſaid to be contagious, that is, full of contagious Particles. See *Poiſon*.

Contents, is the Matter contained in any Veſſel, Canal, or the like.

Contingent, is applied to what happens in the Courſe of a Diſeaſe, without any previous Signs, or contrary to the common Tenour of ſuch a Diſtemper.

Continent, Cauſe of a Diſtemper, is that on which the Diſeaſe depends ſo immediately, that it continues ſo long as that remains, and no longer: As a Stone in the Bladder may be the *Continent* Cauſe of the Suppreſſion of Urine.

Continent Fever, is that which goes on to a Criſis without any Intermiſſion or Remiſſion: and a

Continual Fever, is that which ſometimes remits, but is never quite off; that is, the Patient is ſometimes better, but never quite free of the Fever. Theſe Significations do not ſtrictly anſwer to the Import of the Terms, for which reaſon no notice is taken of their Derivation.

Continuity, is that Texture or Coheſion of the Parts of an animal Body which they naturally enjoy, and upon the Deſtruction of which by foreign Accidents, there is ſaid to be a *Solution of Continuity.*

Contortion, ſignifies the twiſting a Member from its natural Situation; which happens in moſt Diſlocations; and ſometimes in a very extraordinary manner to the Head, from ſome Diſorders upon the Muſcles of the Neck.

Contraction, from *contraho,* to draw together, expreſſes the ſhrinking up of a Fibre, when it is extended: and

Contractile, is ſuch a Body as when extended has a Property of ſo drawing it ſelf up again to that Dimenſion it was in before Extenſion. For the Cauſe of this Property, which is of the utmoſt Conſequence to a right underſtanding the animal OEconomy, ſee *Fibre.*

Contra-Fiſſure, is when any one has received a Blow on one ſide of a Limb, ſo as to have the Bone crack'd on the contrary; but whether this ever happens, is much to be queſtion'd: from *contra,* on the other ſide, and *Fiſſura,* a Crack.

Contra-Indication, is an Indication which forbids that to be done which the main Scope of a Diſeaſe points out at firſt.

Contuſion, is a Bruiſe, which ſtagnates the Juices in the *Capillaries* for ſome time.

Convaleſcence, is that ſpace from the departure of a Diſeaſe, and the Recovery of the Strength which was loſt by it.

Converge, or *Converging Rays,* are thoſe which go from divers Points of the Object, and incline towards one another.

Convex, from *conveho,* to carry out, is the external round Part of any Body oppoſite to the hollow, and commonly in Anatomy called Protuberance.

Convulſion, from *Convello,* to pull together, is an involuntary Contraction of the Fibres and Muſcles, whereby the Body and Limbs are preternaturally diſtorted. A great many Diſorders are included under this Term, having different Names according to the Parts they affect, or the Cauſes they are ſuppoſed to ariſe from; and the Cauſes hereof being manifold, all Conſiderations with regard to a Remedy, are entirely to be guided by thoſe Diſtinctions. See *Epilepſy.*

Coolers: Theſe may be conſider'd under two Diviſions: 1. Thoſe which produce an immediate Senſe of Cold; which are ſuch as have their Parts in leſs motion than thoſe of the Organs of Feeling. And 2: Such as by a particular Viſcidity or Groſſneſs of Parts, give a greater Conſiſtence to the animal Fluids than they had before, whereby they cannot move ſo faſt, and will therefore have leſs of that inteſtine Force on which their Heat depends. The former are Fruits, all acid Liquors, and common Waters; and the latter are ſuch as Cucumbers, and all Subſtances producing Viſcidity: both may be uſed by a knowing Phyſician to anſwer many good

Intentions in Medicine; and both do a great deal of Miſchief in the hands of the Ignorant.

Copula, whence *Copulation*, ſtrictly ſignifying the Conjunction of Male and Female in the act of Generation, but uſed by ſome Phyſical Writers, for a peculiar Mixture of ſome Bodies with others.

Cor. See *Heart.*

Coracobrachialis, from κόραξ, *Corvus*, a Crow, but here ſignifying only the Beak, from its Shape, and *Brachium*, the Arm; is a Muſcle that ariſes from the *Proceſſus Coracoides* and *Scapula*, by a tendinous Beginning; and paſſing over the Articulation, is inſerted into the middle and internal Part of the *Humerus*; and with the *Deltoides* and *Supra-Spinatus*, lifts the Arm upwards.

Coracohyoidæus. Dr. *Keil* ſays this is wrong named, for it ariſes not from the *Proceſſus Coracoides*, but from the upper Edge of the *Scapula*, near its Neck, and aſcending obliquely under the *Maſtoidæus*, is inſerted into the *Os Hyoides*, which it pulls obliquely downwards. The Belly of this Muſcle is a little tendinous in the middle, that the Veſſels which go to the Head be not compreſſed when it acteth.

Coracoides, is a Proceſs in the Shoulder blade in the ſhape of a Crow's-Bill, from the foregoing Etymology.

Corallinum, is a Diſtinction given by *Paracelſus* to a mercurial Preparation, which he calls *Arcanum Corallinum*; being the red Precipitate deflagrated with Spirit of Wine.

Cordial. Whatſoever raiſes the Spirits, and gives ſudden Strength and Chearfulneſs, is termed Cordial, or comforting the Heart. To underſtand the Operation of this upon a human Body, it is neceſſary to conſider, that a Languor or Faintneſs, muſt either be the Conſequence of too much Exerciſe, too long Watching, or too great a Hurry of the animal Functions, as in ſome Diſtempers; all which ſo far waſte or diſſipate the nervous Fluid, or animal Spirits, that the Solids cannot repeat with wonted Vigour their neceſſary Motions; or ſuch Depreſſion muſt ariſe from the Obſtruction of ſome natural Evacuation, and generally that of Perſpiration, from external Cold, which lays a load upon the Conſtitution, and produces the ſame Senſation, as a Diminution of Strength with the uſual Weight. In both theſe Caſes, the manner by which a Cordial acts, is the ſame, ſince it muſt produce its Effects by adding to the Springineſs and Force of the Fibres. And as this Change is moſt remarkable from ſpirituous Liquors; it may be of uſe, firſt to examine how they come to obtain ſuch a Denomination, whereby we may the better underſtand how ſuch Medicines taken in Subſtance operate in producing the ſame Effect; and this will be found to conſiſt only in their Subtilty, and Fineneſs of Parts. It may be ſufficient therefore to attend to every one's Experience, that the more ſpirituous any thing is which enters into the Stomach, the ſooner a Perſon feels its cordial Effects: For that Increaſe of Vigour which a Man obtains from common Food, altho it is the moſt natural and durable, is not immediately enough obtained, to procure the Inſtruments thereof the Appellation of Cordial; ſince they muſt paſs thro' ſeveral Comminutions or Digeſtions, and be a long time ere they arrive to ſuch a Fineneſs as to be diſpenſed to the Nerves;

whereas a ſpirituous Subſtance is ſo fine and ſubtile in all its parts before it is taken, that it ſeems to enter and ſoak into the Nerves as ſoon as it touches them; whereupon their Vibrations are invigorated, and all Senſe of Faintneſs is removed. And upon the ſame account it is, that Volatiles affect the Noſe, being ſo extremely ſubtile as to penetrate the *Olfactory* Nerves as ſoon as they come at them. And thus it is, that the Effluvia or Steams of Flowers, Fruits, and all things deemed Cordial, operate upon the Organs of Smelling.

Cornea Tunica, is the third Coat of the Eye, ſo called from its Subſtance reſembling the Horn of a Lanthorn; it is ſituate in the forepart, and ſurrounded by the White. It has a greater Convexity than the reſt of the Globe of the Eye, and is compoſed of ſeveral parallel *Laminæ*, which are nouriſhed by many Blood-Veſſels, ſo fine, as not to hinder even the ſmalleſt Rays of Light from entring the Eye; and it has a moſt exquiſite Senſe, that upon the leaſt Pain, the Tears might be ſqueezed out of the *Lachrymal* Gland, to waſh off any Filth, which by ſticking to the *Cornea* might render it cloudy or dim.

Corniculate Plants, are ſuch as after they have blown in Flower, produce many diſtinct and horned Pods, or Seed-Veſſels, called *Siliquæ*, and the Plants alſo for that reaſon, *Siliquous* Plants.

Corollary, is an uſeful Conſequence drawn from ſomething which had been before advanced or demonſtrated, often uſed in Geometry.

Coronalis, is the firſt *Suture* of the Skull. It reaches tranſverſly from one Temple to the other; it joins the *Os Frontis* with the *Oſſa Parietaria*. This is open the breadth of a Finger or two in the middle in young Chlidren, but grows cloſer with Age; altho ſometimes by Convulſion-Fits, or a bad Conformation, it not only cloſes in Children, but the Edges ſhoot over one another; which is what the good Women call Head-Mould Shot, after which they ſeldom live long.

Coronary Veſſels, are the two Branches which the great Artery ſpreads over the out-ſide of the Heart, for its ſupply with Blood and Nouriſhment before it pierces the *Pericardium*. See *Heart*. The Arteries and Veins which ſurround the left Orifice of the Stomach, are likewiſe by ſome Anatomiſts ſo called.

Corone, is a ſharp Proceſs of the lower Jaw-bone, ſo called from its likeneſs to a Crow's Beak, from κόραξ, *Corvus*, a Crow. See *Maxilla inferior*.

Corpora Cavernoſa. See *Generation*, Parts of, proper to Men; and

Corpora Nervoſa Penis, called alſo *Corpora Cavernoſa*; theſe are two ſpongy Bodies ariſing diſtinctly from the lower part of the *Os Pubis*. A little from their Root they come cloſe together, being only divided by a Membrane, which at its beginning is pretty thick, but as it approaches to the End of the Yard, grows thinner and thinner, where the *Corpora Cavernoſa* terminate in the middle of the Glans. The external Subſtance of theſe ſpongy Bodies is hard, thick, and white. The internal is compoſed of ſmall Fibres and Membranes, which form a ſort of looſe Network, upon which the Branches of the Blood-Veſſels are curiouſly ſpread. When the Blood is ſtopp'd in the great Veins of the *Penis*, it runs thro' ſeveral ſmall Holes in the ſides of their capillary Branches into the Cavities of the Net-work, by which means the *Corpora Cavernoſa* become diſtended,and by that means the *Penis* erected.

Corpora Pyramidalia, are two Protuberances of the under Part of the *Cerebellum*, about an Inch long, which from their Reſemblance to a Pyramid in ſhape, are thus called: and on each ſide of them towards their lower End, there are two more, which becauſe of their Figure alſo in the Likeneſs of an Olive, are called *Corpora Olivaria*. Further, when the Blood hath diſcharged it ſelf of the Seed in the Teſticles, it returns by the Veins, which riſing in ſeveral Branches from the *Teſtes*, tend towards the *Abdomen* in the Production of the *Peritonæum* the ſame way the Arteries come down: In their Progreſs their Branches frequently inoſculate, and divide again, till they come near the Abdomen, and then they all unite in one Trunk; and there, becauſe of their ſhape, are alſo called *Corpora Pyramidalia*.

Corpus, Body, ſtrictly expreſſes the ſame as Matter; which ſee.

Corpus Calloſum, is the upper Part or Covering of the two lateral Ventricles, appearing immediately under the Proceſs of the *Dura Mater*, below the Depth of all the Circumvolutions of the Brain, and formed by the Union of the medullary Fibres of each ſide.

Corpus Glanduloſum. See *Proſtatæ*.

Corpus Reticulare. See *Cutis*.

Corpuſcles, a Diminutive of *Corpus*, Body; ſignify the minute Parts or Particles, or Atoms, of which any Body is conſtituted. And that way of reaſoning which endeavours to explain things, by the Motion, Figure, and Poſition of theſe minute Ingredients of mixed Bodies, has of late, and particularly from the Authority of Mr. *Boyle*, been called the

Corpuſcular Philoſophy: The chief Principles of which are, 1. That there is but one Catholick or Univerſal Matter, which is an extended impenetrable and diviſible Subſtance common to all Bodies, and capable of all Forms. 2. That this Matter, in order to form the vaſt Variety of natural Bodies, muſt have Motion in ſome or all its deſignable Parts; and that this Motion was given to Matter by God the Creator of all Things, and has all manner of Direction and Tendencies. 3. That Matter muſt alſo be actually divided into Parts, and each of theſe primitive Particles, Fragments, or Atoms of Matter, muſt have its proper Magnitude, Figure, and Shape. 4. That theſe differently ſized and ſhaped Particles have different Orders, Poſitions, Situations, and Poſtures, from whence all the Variety of compound Bodies ariſes. Sir *Iſaac Newton*, in his ſecond Book of Opticks, ſhews a way of gueſſing with great Accuracy, at the ſizes of the component Corpuſcles or Particles, of which Bodies are conſtituted.

Corrector, is ſuch an Ingredient in a Compoſition as guards againſt, or abates the Force of another; as the lixivial Salts prevent the grievous Vellications of reſinous Purges, by dividing their Particles, and preventing their Adheſions to the inteſtinal Membranes, whereby they ſometimes occaſion intolerable Gripings; and as Spices and Carminative Seeds alſo aſſiſt in the eaſier Operation of ſome Catharticks, by diſſipating Collections of Wind. In the making a Medicine likewiſe, ſuch a thing is called a Corrector, which deſtroys or diminiſhes a Quality in that it could not other-otherwiſe be diſpenſed with: Thus Turpentines may be called the Correctors of Quickſilver by deſtroying its Fluxility, and making it thereby capable of Mixture; and thus rectify'd Spirit of Wine breaks off the Points of ſome Acids, ſo as to make them become ſafe and good Remedies which before were deſtructive.

Corroborate, ſignifies to ſtrengthen, ſee *Strength*.

Corroborating Medicines, are ſuch as increaſe the Strength of the Body, by enlivening the vital Faculties.

Corroſion, and to *corrode*, from *corrodo*, to eat away. This is a particular Species of Diſſolution of Bodies, either by an acid or a ſaline Menſtruum: ſo that it will be of ſome Aſſiſtance in the underſtanding hereof to know what is neceſſary to Diſſolution, which ſee. But this is peculiar to Corroſion, that it is almoſt wholly deſigned for the Reſolution of Bodies which are moſt ſtrongly compacted, ſuch as Bones and Metals; ſo that the Menſtruums here employ'd have a conſiderable Moment or Force; the reaſon of which, it may not be amiſs to trace out more diſtinctly. Theſe Liquors whether acid or urinous, are nothing but Salts diſſolved in a little Phlegm: Therefore theſe being ſolid, and conſequently containing a conſiderable Quantity of Matter, do both attract one another more, and are alſo more attracted by the Particles of the Body which is to be diſſolved: and as their Attractions at equal Diſtances are proportional to their Bulks, *cæteris paribus*; ſo when the more ſolid Bodies are put into ſaline Menſtruums, the Attraction is ſtronger than in other Solutions; and the Motion, which is always proportional to the Attraction, more violent: So that we may eaſily conceive when the Motion is in ſuch a manner increaſed, it ſhould drive the Salts, like ſo many Darts, into the Pores of the Bodies, and open and looſen the Coheſion of them, tho ever ſo firm. And this may be obſerved in Corroſion, that the more minute the Particles of the Menſtruum are, they penetrate the ſooner, and with the greater Force: For the Motion which Attraction produces, is always greateſt and moſt conſiderable in the leaſt Corpuſcles, and is almoſt next to nothing in the large ones; for a ſmall Corpuſcle is carried with a conſiderable Velocity, when a greater, by reaſon of its large Surface, is often obſtructed by the ambient Fluid, and deprived of all Motion. And there is another Advantage gained by this Minuteneſs of the Particles, that they approach nearer to the Body to be diſſolved, without which the attractive Force would not be felt. Hence thoſe very Salts which diſſolved in Water will hardly touch Metals, if once turned into acid Spirits, will eaſily penetrate and conquer them: For in Diſtillation, not only a greater Quantity of Water remains, but the ſaline Bodies are ſo minutely broken and divided by the Fire, as to make them more readily capable of being moved by an attractive Force; and therefore ſuch a diſtill'd Menſtruum is much more efficacious than any Solution of Salt made with Water. See *Menſtruum*.

Corrugate, is to wrinkle or purſe up, as the Skin is drawn into Wrinkles by Cold, or any other Cauſe.

Corrugator Supercilii; each Eyebrow has one. It is a Muſcle ariſing from the great *Canthus* of the Orbit, and terminating in the Skin about the middle of the Eye-brows.

Some reckon this Pair only a Prolongation of the *Frontales*; their Name declares their Uſe, from *corrugo*, to wrinkle up, or knit the Brows.

Cortex; the *Peruvian-Bark*, is ſo called by way of Preheminence, this word being a common Name for any Bark, or Covering; whence,

Cortical Subſtance. See *Cinneritious Subſtance*,

Corrugent Muſcle. See *Corrugator Supercilii.*

Corruption, is the Deſtruction, or at leaſt the Ceſſation for a Time, of the proper Mode of Exiſtence of any natural Body; for whenever a Body loſes all, or any of thoſe Accidents which are eſſentially neceſſary to the conſtituting it of ſuch a particular kind, it is then ſaid to be corrupted or deſtroy'd, and loſes its former Denomination, being not now a Body of the kind it was before: But nothing can be deſtroy'd as to its Subſtance or Materiality; for as in Generation nothing of Matter is produced that did not before exiſt, ſo in Corruption nothing more is loſt than that particular Modification which was its Form, and made it be of ſuch a Species.

Corymbus, in general ſignifies the Top of any thing; but amongſt the antient *Botaniſts* it was uſed to expreſs the Bunches or Cluſters of Berries of Ivy, or the like: Some alſo call the top of the Stalk of a Plant, when it is ſo ſubdivided and adorned with Flowers or Fruits, that it makes a round ſpherical Figure, by this Name; as the Tops of Leeks, Onions, and the like: and others confound the Word with *Umbella*, which expreſſes the flowry Tops of ſuch Plants as have their Branches and Flowers ſpread round into the Form of what our Women now call an *Umbrella*. But amongſt our modern Botaniſts it is uſed for a compounded diſcous Flower, whoſe Seeds are not pappous, or do not fly away in Down; ſuch are the Flowers of Daiſies, common Marygold, *&c.* and therefore Mr. *Ray* makes one Genus of Plants to be ſuch as have a compound diſcous Flower, but without any downy Wings to carry off their Seeds; and theſe he calls

Corymbiferous Plants, which are diſtinguiſhed into ſuch as have a radiate Flower, as the *Flos Solis*, *Calendula*, *&c.* and ſuch as have a naked Flower, as the *Abrotonum*, *Fæmineum*, *Eupatorium*, *Artemiſia*; to which are added the *Corymbiferis Affines*, or thoſe a-kin hereunto, ſuch as *Scabious*, *Dipſacus*, *Carduus*, and the like.

Coryza, is a Defluxion of ſerous ſharp Humours from the Glands of the Head, upon a Diminution of Perſpiration, or taking Cold.

Coſmetick, from κοσμέω, *orno*, to beautify; are ſuch Medicines as preſerve Smoothneſs and Beauty to the Skin.

Coſtæ, The Ribs: Of theſe there are 24 in Number, *viz.* 12 on each ſide the 12 *Vertebræ* of the Back; they are crooked, and like to the Segments of a Circle: they grow flat and broad as they approach the *Sternum*, but the nearer they are to the *Vertebræ* they are the rounder and thicker; at which end they have a round Head, which being covered with a Cartilage, is received into the *Sinus* in the Bodies of the *Vertebræ*; and at the Neck of each Head (except the two laſt Ribs) there is a ſmall *Tubercle*, which is alſo received into the *Sinus* of the tranſverſe Proceſſes of the ſame *Vertebræ*. The Ribs thus articulated, make an acute Angle with the lower *Vertebræ*. The Ribs have each a ſmall Canal or *Sinus*, which runs along their under ſides, in which lies a Nerve, Vein, and Artery. Their Extremities which are faſtned to the *Sternum*, are cartilaginous, and the Cartilages make an obtuſe Angle with the bony Part of the Ribs; this Angle reſpects the Head. The Cartilages are harder in Women than in Men, that they may better bear the Weight of their Breaſts. The Ribs are of two ſorts: the ſeven upper are called *Coſtæ veræ*, becauſe their cartilaginous Ends are received into the *Sinus* of the *Sternum:* The five lower are called *falſæ*, becauſe they are ſofter and ſhorter, of which only the firſt is joined to the Extremity of the *Sternum*, the cartilaginous Extremities of the reſt being tied to one another, and thereby leaving a greater Space for the Dilatation of the Stomach and Entrails. The laſt of theſe falſe Ribs is ſhorter than all the reſt: it is not tied to them, but ſometimes to the *Muſculus obliquus deſcendens.* If the Ribs had been articulated with the Bodies of the *Vertebræ* at right Angles, the Cavity of the *Thorax* could never have been enlarged in breathing. If each Rib had been a rigid Bone articulated to the tranſverſe Proceſſes of the *Vertebræ*, the *Sternum* could not have been thruſt out to that degree as it is now, or the Cavity of the *Thorax* could not have encreaſed ſo much as is requiſite in Inſpiration: For when the Ribs are pulled up by the intercoſtal Muſcles, the Angle which the Cartilages at the *Sternum* make with the bony part of the Rib muſt be increaſed, and conſequently its Subtenſe, or the Diſtance between the *Sternum* and the tranſverſe Proceſſes, lengthened. Now becauſe the Rib cannot move beyond the tranſverſe Proceſs, upon the account of its Articulation with it, therefore the *Sternum* muſt be either thruſt to the other ſide, or elſe outwards: It cannot move to the other ſide, becauſe of an equal Preſſure upon the ſame account there; and therefore it is thruſt outwards, or the diſtance between the *Sternum* and the *Vertebræ* is increaſed. The laſt Ribs which do not reach the *Sternum*, and conſequently conduce nothing in this Action, are not articulated with the tranſverſe Proceſſes. If we ſuppoſe the Cavity of the *Thorax* to be half a Spheroid, whoſe Semi-Axis is the Height of the *Thorax*, or 15 Inches, and the Diameter of its greater Circle 12 Inches, then the Cavity of the *Thorax* contains 1130 cubick Inches; but in an eaſy Inſpiration, the *Sternum* is raiſed $\frac{1}{10}$ of an Inch, upon which account the Cavity of the *Thorax* is increaſed to 1150 cubick Inches. To this if be added the Space which the *Diaphragm* leaves, which is the Segment of a Sphere, whoſe Diameter is 15 Inches, and the Solidity of the Segment 183 Inches, there will be 22 Inches more, if the Diaphragm deſcends but one Inch; but if it deſcends one Inch and a half, it leaves room for 52 Inches of Air to enter; and if it deſcends two Inches, the Cavity of the *Thorax* will be encreaſed upon the account of the Motion of the Diaphragm above 86 Inches: ſo that in the leaſt Inſpiration that can be ſuppoſed, the Lungs are diſtended with 42 Inches of Air, and they may be ſo ſometimes with above 70, or 100.

Cotyla, or *Cotyle*, the ſame with *Acetabulum*, which ſee.

Cotyledones, are little Glands diſperſed up and down the outermoſt Membrane of the *Fœtus*, ſaid to ſeparate a nutritious Juice, and thus called from the reſemblance to the Herb Pennywort, called in Latin *Cotyledon*. See *Chorion*.

Coxæ Os, is joined to the Extremity of the *Os ſacrum*; and is compoſed of three or four Bones, of which the lower is ſtill leſs than the upper, till the laſt ends in a ſmall Cartilage: it reſembles a little Tail turned inwards; its uſe is to ſuſtain the ſtrait Gut; it yields to the Preſſure of the *Fœtus* in Women in Travail, and Midwives uſe to thruſt it backwards, but ſometimes rudely and violently, which is the occaſion of great Pain, and ſeveral bad Effects.

Crane's Bill, is a ſort of *Forceps* uſed by Surgeons, ſo called from its reſemblance in ſhape to the Bill of a Crane.

Cranium, or Skull, is made up of ſeveral Pieces, which being joined together, form a conſiderable Cavity, which contains the Brain as in a Box; and it is proportionate to the Bigneſs of the Brain. Its Figure is round, a little depreſſed on its ſides; ſuch a Figure being the moſt capacious, whilſt the Flatneſs of its ſides helps to enlarge the Sight and Hearing. The ſeveral Pieces, of which the *Cranium* is compoſed, are joined together by *Sutures*; which makes it leſs apt to break, and gives room to ſeveral Membranes which ſuſpend the *Dura Mater*, and which go to the *Pericranium*, to paſs thro', and that the Matter alſo of Tranſpiration might have vent. Theſe Pieces or Bones are ſix proper and two common, and each is made up of two Tables, or *Laminæ*, between which there is a thin and ſpongious Subſtance, made of ſome bony Fibres which come from each *Lamina*, called in Greek *Diploe*, and in Latin *Meditullium*. In it there are a great many Veins and Arteries, which bring Blood for the Nouriſhment of the Bones. The *Tables* are hard and ſolid, becauſe in them the Fibres of the Bones are cloſe to one another. The *Diploe* is ſoft, becauſe the bony Fibres are at a greater diſtance from one another; by which contrivance the Skull is not only made lighter, but alſo leſs ſubject to be broken. The external *Lamina* is ſmooth, and covered with the *Pericranium*; the internal is likewiſe ſmooth, but on it there are ſeveral Furrows made by the Pulſe of the Arteries of the *Dura Mater*, whilſt the *Cranium* was ſoft and yielding.

The *Cranium*, as was before ſaid, is made of ſeveral Pieces joined together by *Sutures*, that it might be the ſtronger and leſs apt to break, that ſeveral Membranes and Veſſels which ſuſpend the *Dura Mater*, and which go to the *Pericranium*, may paſs thro' the *Sutures*, and that the Matter of Tranſpiration may paſs thro' them.

And the Bones of the *Cranium* are ſix proper, and two common to it; and theſe have ſeveral Inequalities made by the Veſſels of the *Dura Mater*. It has two large Dimples made by the anterior Lobes of the Brain. Above the *Criſta Galli* it has a ſmall blind Hole, into which the end of the *Sinus Longitudinalis*, is inſerted: From this Hole it has a pretty large Spine which runs up along its middle; inſtead of this Spine there is ſometimes a *Sinus*, in which lies the *Sinus Longitudinalis*, which ought carefully to be obſerved by Chirurgeons in Wounds of this Place. This Bone is thicker than thoſe of the *Sinciput*, but thinner than the

Os Occipitis. In Children it is always divided in the middle by a true *Suture.*

The ſecond and third are the Bones of the *Sinciput* called *Parietalia*; they are the thinneſt Bones of the *Cranium,* they are almoſt ſquare, ſomewhat long, and are joined to the *Os Frontis* by the *Sutura Coronalis,* to one another in the Crown of the Head by the *Sutura Sagittalis,* to the *Os Occipitis* by the *Lambdoidalis,* and to the *Oſſa Temporum* by the *Suturæ Squammoſæ.* They are ſmooth and equal on their outſide, but on their inſide they have ſeveral Furrows, made by the Pulſe of the Artery of the *Dura Mater.* They have each a ſmall Hole near the *Sutura Sagittalis,* thro' which there paſs ſome Veins which carry the Blood from the Teguments to the *Sinus Longitudinalis.*

The fifth and ſixth are the *Oſſa Temporum,* ſituated on the lower part of the ſides of the *Cranium*; their upper part, which is thin, conſiſting only of one Table, is of a circular Figure, and is joined to the *Oſſa Parietalia* by the *Suturæ Squammoſæ*; their lower part, which is thick, hard, and unequal, is joined to the *Os Occipitis,* and to the *Os Sphenoides*; this part is called *Os Petroſum.* They have each three external *Apophyſes,* or Proceſſes, and one internal: the firſt of the external is the *Proceſſus Zygomaticus,* which runs forward, and unites with the Proceſs of the *Os Mali,* making that Bridge called the *Zygoma,* under which lies the Tendon of the *Crotaphite* Muſcle. The ſecond is the *Mamillaris* or *Maſtoidæus*; it is ſhort and thick, ſituated behind the *Meatus Auditorius.* The third is the *Proceſſus Styliformis,* which is long and ſmall; to it the Horns of the *Os Hyoides* are tied. The internal Proceſs is pretty long and big in the Baſis of the Skull; it contains all the Cavities and little Bones of the Ear, which have been already deſcribed under that Word, which ſee. The Holes in the temporal Bones are two internal, and four external: the firſt of the external is the Hole thro' which the auditory Nerve paſſes; the ſecond is common to it, and the *Os Occipitis*; the eighth Pair of Nerves. and the lateral *Sinus's* paſs thro' it. The firſt of the external Holes is the *Meatus Auditorius externus*; the ſecond opens behind the *Palate*; it is the end of that Paſſage which comes from the Barrel of the Ear to the Mouth: the third is the Orifice of the Conduit by which the *Carodital* Arteries enter the *Craninm:* and the fourth is behind the *Proceſſus Maſtoidæus*; by it paſſes a Vein which carries the Blood from the external Teguments to the lateral *Sinus's.* Sometimes this Hole is wanting; there is another which is between the *Proceſſus Maſtoidæus* and *Styliformis,* thro which the *Portio Dura* of the auditory Nerve paſſes: they have each a *Sinus* lined with a Cartilage under the *Meatus Auditorius,* which receives the Condyl of the lower Jaw.

The ſixth Bone of the *Cranium* is the *Os Occipitis*; it lies on the hinder part of the Head; it is almoſt like a Lozenge, with its lower Angle turned inwards: it joins the *Oſſa Parietalia* and *Petroſa* by the *Lambdoidal Suture*; and the *Os Sphenoides,* by the *Sphenoidalis*: It is thicker than any other Bones of the *Cranium,* yet it is very thin where the *Splenius, Complexus,* and *Trapezius* are inſerted. Externally it is rough; internally it has two *Sinus's* in which lie the two Protuberances of the *Cerebellum*; and two large Furrows in which lie the *Sinus lateralis*: it has ſeven Holes, the firſt two are common to it and the *Oſſa Petroſa*; the lateral *Sinus's* and the *Par Vagum* paſs thro' them. The third is the great Hole thro' which paſſes the *Medulla Spinalis*: The fourth and fifth are the Holes thro' which there paſs two Veins, which bring the Blood from the external Teguments to the *Sinus lateralis*; ſometimes there is but one, and ſometimes none of theſe two; and ſometimes there are two more thro' which the vertebral Veins paſs. This Bone has alſo two *Apophyſes*, one on each ſide of the great Hole; they are lined with a Cartilage, and articulated with the firſt *Vertebra* of the Neck. It has alſo a Protuberance in its middle, from which there goes a ſmall Ligament, which is inſerted into the firſt *Vertebra* of the Neck. It is longer in Beaſts than in Men.

The firſt of the Bones common to the Skull and upper Jaw, is the *Sphenoides*: It is a Bone of a very irregular Figure, and ſituated in the middle of the Baſis of the Skull; it is joined to all the Bones of the *Cranium* by the *Sutura Sphenoidalis*, except in the middle of its ſides, where it is continued to the *Oſſa Petroſa* as if they were one Bone. On its outſide it has five *Apophyſes*; the firſt two are broad and thin like a Bat's Wings; they are called *Pterygoides*; they have each a pretty long *Sinus*, from which the Muſcles called *Pterygoidæi* ariſe; and at their lower end they have each a ſmall Hook like a Proceſs, upon which the *Periſtaphilinus externus* turns its Tendon. The third and fourth make the internal, and lower part of the Orbit; and the fifth is a little *Apophyſis* like the *Criſta Galli* in its fore-part, which is received in a Cavity at the further end of the *Vomer*. There is alſo a little ſmall Protuberance in the middle of this Bone, from which the Muſcles of the *Uvula* ariſe; on its inſide it has four Proceſſes called *Clinoides*, they form a Cavity in the middle of this Bone called *Cella Turcica*, in which lies the *Glandula Pituitaria*. Betwixt the two Tables of this Bone, under the *Cella Turcica*, there is a *Sinus* divided into two in its Middle, which opens by two Holes into the Cavity of the Noſtrils. In the *Os Sphenoides* there are 12 Holes; by the firſt and ſecond paſs the Optick Nerves; by the third and fourth which are called *Foramina Lacera*, paſs the third Pair, fourth Pair, firſt Branch of the fifth Pair, and the ſixth Pair; by the fifth and ſixth paſs the ſecond Branch of the fifth Pair; by the ſeventh and eighth paſs the third Branch of the ſame Pair; by the ninth and tenth enter the Arteries of the *Dura Mater*; and by the eleventh and twelfth enter the internal *Carotidales*, and the intercoſtal Nerve goes out. The Canals by which the *Carotidales* enter are oblique; the Beginning of them is made in the *Oſſa Petroſa*, and they open within the Skull in the *Sphenoides*. The ſecond and laſt of the common Bones is the *Ethmoides*, to be deſcribed under that Word; which ſee.

Craſis, from κρᾶσις, *Mixtura*, a Mixture, is ſuch a due Mixture of Qualities in a human Body, as conſtitutes a State of Health.

Craſſamentum. See *Cruor*.

Cremaſter, from κρεμάω, *ſuſpendeo*, to hold up; is a Muſcle running upon the Outſide of the *Tunica Vaginalis*, thus called from its Office, becauſe it ſuſpends the Teſticles, and draws them up in the Act of Generation. It ariſes from the *Os Pubis*, and ſpreads its Fibres upon the *Elythroides*, or *Tunica Vaginalis.*

Crepitation, from *crepo*, to crack, is that Noiſe which ſome Salts make over the Fire in Calcination. See *Detonation.*

Cribroſum and *Cribriforme Os.* See *Ethmoides.*

Crico-Arytenoidæus Lateralis, from κείχος, *Annulus*, a Ring; ἀρύω, *haurio*, to drink, or ἀρυτὴς, a ſort of Cup to drink out of; and εἶδος, *Forma*, Shape. See *Larynx.*

Crico-Arytenoidæus Poſticus. See *Larynx.*

Crico-Thyroides, from κείχος, *Annulus*, a Ring, θυρεὸς, *Scutum*, a Helmet, and εἶδος, *Forma*, Shape. See *Larynx.*

Cricoides, from κρίκος, *Annulus*, a Ring. See *Larynx.*

Crinated Roots, are ſuch as ſhoot into the Ground in many ſmall Fibres like Hair.

Criſtæ, are a certain Species of Tumours or hard Excreſcences ariſing at a ſmall diſtance from the Verge of the *Anus.*

Criſis, from κρίνω, *judico*, to judge, or *ſecerno*, to ſeparate; is ſome Change in the Patient, which diſcovers the State of a Diſeaſe, either for the better or worſe. And,

Critical Days, are thoſe Days wherein ſuch Change happens. The Writers of Inſtitutions have ſtrangely perplexed this part of a Phyſician's Province; it may therefore be of conſequence to clear it up as much as is conſiſtent with our allotted room here. The Concoction then of any morbifick Matter, and the Humour to be ſecerned, is nothing elſe but a Change of it into ſuch a due Magnitude or Smallneſs, as it may be carried by the circulating Blood along the Canals, and excerned by Veſſels deſtined for that purpoſe. But if the morbifick Matter cannot be reduced to ſuch a Smallneſs that may correſpond to the Orifices of the ſecretory Veſſels, then either an Abſceſs or Hæmorrhage will follow, if a Criſis is begun; for which reaſon Abſceſſes, *&c.* are accounted leſs perfect Criſes. But that the morbific Matter may be reduced to a due Smallneſs, and its wiſhed for Diſcharge be effected, there is required a conſiderable time if the Quantity of Matter is large; that is, if the Diſtemper be great and ſevere. And ſince there are a great many Cauſes, and thoſe very conſtant, that may occaſion the Blood and offending Humours therein, to be of a different Fluidity in the Inhabitants of different Climates, it is impoſſible but that different Spaces of time ſhould be required for the finiſhing Concoction; which makes it impoſſible to determine the critical Days in one Climate from what they are found to be in another. The Cauſes of real critical Days, that is, ſuch on which happens the laſt Concoction of the morbifick Matter, which is always attended with its Expulſion, are all thoſe things which occaſion the Humours to become of ſuch a certain Magnitude or Minuteneſs, and of a greater or leſſer Coheſion; but with any given Power, Bodies unequally large, or unequally cohering, cannot be concocted in an equal time: wherefore it is to be found from the Obſervations made by all Nations among themſelves, what are the uſual Cauſes and Conditions of thoſe Diſeaſes which require a certain Number of Days to finiſh ſuch a Concoction in. And when there is a ſufficient number of ſuch Obſervations made, the Diſtemper and Circumſtances appearing the ſame, we may be able to foretel a critical Day with much more Exactneſs, than it is now in our power to do.

Criſtæ Galli. See *Ethmoides.*

Crocus, is a Term given to many Preparations made by the Chymiſts after the manner of Ruſt, by corroding and opening metallick Subſtances into ſuch a Form.

Crotaphite : The ſame as *Temporal Muſcle*; which ſee.

Crucible, is an earthen Veſſel well known to the Chymiſts and Refiners, that is made on purpoſe to endure the Fire, and fit for melting of Metals.

Crudity, ſignifies properly Rawneſs, or any thing not duly digeſted and mixed, whether in Animal, or other Subſtances.

Cruor, is the proper Term for the thick, red, or fibrous Part of the Blood, otherwiſe called *Craſſamentum,* in Diſtinction of the ſerous or aqueous Part.

Crura : The two Heads of the medullary Subſtance of the Brain, called *Medulla Oblongata,* have this Appellation.

Crura Clitoridis. See *Generation,* Parts of, proper to Women.

Cruræus, is a Muſcle which comes from the fore-part of the Thigh-bone, between the leſſer and greater *Trochanter,* and lying cloſe upon the Bone, it joins its Tendon with three others, which all together make one broad Tendon that paſſes over the *Patella,* and is inſerted into the little Tuberoſity on the upper and fore-part of the *Tibia.*

Crus, in Anatomy, is all that Part of the Body which reaches from the Buttocks to the Toes, and is divided into Thigh, Leg, and Foot.

Cryptæ, a Term uſed in Anatomy to expreſs a Receptacle of any particular Humour or Matter, in Diſtinction from a Gland which is not ſuppoſed to receive, but only to tranſmit.

Cryſtalline Humour, is the ſecond Humour of the Eye, that lies immediately next to the aqueous behind the *Uvea,* oppoſite to the *Papilla,* nearer to the fore-part than the back-part of the Globe; it is the leaſt of the Humours, but much more ſolid than any of them. Its Figure, which is convex on both ſides, reſembles two unequal Segments of Spheres, of which the moſt convex is on its back-ſide, which makes a ſmall Cavity in the glaſſy Humour in which it lies. It is covered with a fine Coat called *Aranea.*

Cryſtal Mineral, the ſame as *Sal Prunel.*

Cryſtallization, is ſuch a Combination of ſaline Particles, as reſembles the Form of a Cryſtal, variouſly modify'd according to the Nature and Texture of the Salts. The Method is by diſſolving any ſaline Body in Water, and filtering it, to evaporate till a Film appears at the Top, and then let it ſtand to ſhoot, and this it does by that attractive Force which is in all Bodies, and particularly in Salt by reaſon of its Solidity; whereby when the *Menſtruum,* or Fluid, in which ſuch Particles float, is ſated enough, or evaporated (which brings it to the ſame) ſo that the ſaline Particles are within each other's attractive Powers, they draw one another more than they are drawn by the Fluid, then will they run into Cryſtals. And this is peculiar to thoſe Salts, that let them be ever ſo much divided and reduced into minute Particles, yet when they are formed into Cryſtals, they each of them re-aſſume their proper Shapes; ſo that one might as eaſily diveſt and deprive them of their Saltneſs, as of their Figure. This being an immutable and perpetual Law, by knowing the Figure of the Cryſtals, we may underſtand what the Texture of the Particles ought to be, which can form thoſe Cryſtals. And on the other hand, by knowing the Texture of the Particles, may be determined the Figures of the Cryſtals: for ſince the Figures of the moſt ſimple Parts remain always the ſame, 'tis evident the Figures which they run into, when compounded and united, muſt be uniform and conſtant. And ſince the Force of Attraction may be ſtronger on one ſide of a Particle than on another, there will conſtantly be a greater Accretion of Salts upon thoſe ſides which attract more ſtrongly. From which it may eaſily be demonſtrated, that the Figures of the leaſt Particles is entirely different from that which appears in the Cryſtal. See *Prop.* 17. under Particle.

Cube, is a ſolid Body of ſix equal Sides, which are all Squares: It is one of the five regular Bodies, and its Content is found by multiplying any one Side or Surface by the Height.

Cubiforme Os. The ſeventh Bone of the Foot is ſo called, becauſe of its Figure reſembling a Cube. It lies in the ſame Rank with the *Oſſa Cuneiformia*; behind, it is joined to the *Os Calcis*; before, to the two outer Bones of the *Metatarſus*, and on its inſide it is joined to the third *Os Cuneiforme*.

Cubitæus Externus, is one of the Extenſors of the Fingers, and ariſeth from the external Extuberance of the *Humerus*, and paſſing its Tendon under the *Ligamentum Annulare*, is inſerted into the fourth Bone of the *Metacarpus* that ſuſtains the little Finger.

Cubitæus Internus, ariſeth from the internal Extuberance of the *Humerus*, and upper-part of the *Ulna*, upon which it runs all along till it paſſes under the *Ligamentum Annulare*, and is inſerted by a ſtrong and ſhort Tendon into the fourth of the firſt Order of the *Carpus*.

Cubit, is the middle-part between the Shoulder-bone and the Wriſt.

Cuboides. See *Cubiforme Os.*

Cucullaris, a Muſcle ſerving to move the *Scapula*, ſo called from its Figure reſembling that of a Monk's Hood. 'Tis alſo called *Trapezius*.

Cucullate Flower, from *Cuculla*, a Hood; ſo called from its Reſemblance in Shape to a Hood.

Cucupha, is an ancient Form of quilting Spices into a Cap to be wore upon the Head in many nervous Diſtempers, and ſuch as more particularly affect the Head; but they are now almoſt out of Practice.

Cucurbit, is a chymical Veſſel, commonly called a Body, made of Earth or Glaſs, in the Shape of a Gourd; and therefore thus called, becauſe

Cucurbita, is a Gourd, whoſe Seeds are uſed in cooling Emulſions.

Cucurbitula, is a Cupping-glaſs; the Uſe and Manner of applying which, is too well known to want any Deſcription.

Cucurbitini Lumbrici, are a particular kind of Worms reſembling the Gourd-ſeeds in ſhape, and therefore thus called.

Culmus, is properly the Stalk of Corn or Graſs, but of no other Plant; becauſe that is called *Caulis*. And,

Culmiferous Plants, are ſuch as have a ſmooth jointed Stalk, and uſually hollow; and at each Joint the Stalk is wrapped about with ſingle, narrow, long ſharp-pointed Leaves, and their Seeds are contained in chaffy Husks.

Cuneiforme Os. See *Sphenoidis Os.*

Cuneiformia Oſſa, are the fourth, fifth, and ſixth Bones of the Foot, thus called from their Wedge-like Shape, the Term importing ſo much, from *Cunis,* a Wedge, and *Forma,* Shape; for they are large above, and narrow below. They lie all three at the ſide of one another. Their upper Side is convex, and their under hollow, by which means the Muſcles and Tendons in the Bottom of the Foot are not hurt when we go. At one end they have each a *Sinus,* which receives the *Os Naviculare,* and at the other end they are joined to the three inner Bones of the *Metatarſus*; the inmoſt of theſe Bones is the biggeſt, and that in the middle the leaſt.

Cuneus, the Wedge, which is a triangular Priſm, whoſe Sides are acute angled Iſoſceles Triangles.

Cunnus, expreſſes ſo much of a Woman's Privy-parts as conſiſts of the *Clitoris, Nymphæ,* and *Labia.*

Cupel, or *Copel,* is a Furnace made of Aſhes and burnt Bones, for ſeparating the Droſs from Metals, chiefly uſed by the Refiners. See *Le Mort*'s *Metallurgia contracta.*

Curcuma, Turmerick, called *Crocus Indicus* becauſe of its Saffron-colour, and the Place from whence it comes.

Cuſpated, in Botany, is when the Leaves of a Flower end in a Point, from *Cuſpis* a Spear, whoſe Point they reſemble.

Cutaneous, is any thing concerning the Skin, either of a Diſtemper or Remedy, from *Cutis* the Skin.

Cutaneous Diſeaſes, are generally ſuppoſed to proceed from that curdy Matter like Paſte, which being thruſt out and lodged between the cuticular Pores, cauſes a Stagnation of the Juices, and Dryneſs of the Skin, *&c.*

Cuticula, called alſo *Epidermis,* from ἐπὶ, *ſupra,* above, and δέρμα, *Cutis,* the Skin, is the firſt and outermoſt Covering of the Body, commonly called the Scarf-skin. This is that ſoft Skin which riſes in a Bliſter upon any Burning, or the Application of a Bliſtering-Plaiſter. It ſticks cloſe to the Surface of the true Skin, to which it is alſo tied by the Veſſels which nouriſh it, tho they are ſo ſmall as not to be ſeen. When the Scarf-skin is examined with a Microſcope, it appears to be made up of ſeveral Lays of exceeding ſmall Scales, which cover one another, more or leſs, according to the different Thickneſs of the Scarf-skin in the ſeveral Parts of the Body. In the Lips, where the Scales appear plaineſt, becauſe the Skin is thinneſt, they only in a manner touch one another. Now theſe Scales are either the excretory Ducts of the Glands of the true Skin, as is apparent in Fiſhes, or elſe the Glands have their Pipes opening between the Scales. *Leuwenhoeck* reckons that in one cuticular Scale there may be 500 excretory Channels, and that a Grain of Sand will cover 250 Scales; ſo that one Grain of Sand will cover 102500 Orifices thro' which we daily perſpire.

The Scales are often glewed to one another by the groſſer Parts of our inſenſible Tranſpiration hardening upon them by the Heat of the Body, which carries off the more volatile Particles. The Humour which is afterwards ſeparated by the Glands of the Skin being pent in between the Scales, cauſes frequent Itching; and where the Matter has been long pent up, ſmall Pimples;

for the removing of which, Nature directs to thoſe wholeſome Remedies of frequent rubbing, or waſhing, or bathing. The Uſe of the Scarf-skin is to defend the Nerves of the Skin, which are the Origin of the Senſe of Feeling, from the Injuries of rough and hard Bodies, as well as the Air: for either thoſe would make too exquiſite and painful an Impreſſion on the naked Nerves; or the Air would dry them, ſo as that they would be leſs ſuſceptible of the nicer Touches of Pleaſure.

Cutis, the Skin. In this there are three Parts remarkable: The firſt is an infinite number of the *Papillæ Pyramidales*; theſe are the Ends of all the Nerves of the Skin, each of which is encloſed in two or three Covers of a pyramidal Figure, and thoſe Covers each above another. They may be eaſily ſeen and ſeparated in the Skin of an Elephant, and in the Skin of the Feet of ſeveral other Animals. Between theſe *Papillæ* are an infinite number of Holes, which are the Orifices of the excretory Veſſels of the milliary Glands underneath. About the *Papillæ* is ſpread a mucous Subſtance, which becauſe it is pierced by them, and conſequently full of little Holes, is called by *Malpighi*, the *Corpus Reticulare*; its Uſe is to keep the Extremities of the Nerves ſoft and moiſt, and ſenſible of the ſlighteſt Touches. The ſecond Part is a Web of nervous Fibres, and other Veſſels differently interwoven, and it is the *Parenchyma*, or that Part of the Skin that the Parchment is made of. The third Part is an infinite number of milliary Glands, about which there is much Fat; they lie under the other two Parts, and they ſeparate the Matter of Sweat and inſenſible Tranſpiration. Each Gland receives a Nerve and Artery, and ſends out a Vein and excretory Veſſel, which laſt paſſes thro' the other two Parts to the *Cuticula*, for the diſcharging the Body of this Matter, and for the moiſtning the *Cuticula*, and the *Papillæ Pyramidales*, that they may not dry, which would very much hurt the Senſe of Feeling. Upon the Surface of the Skin there are many parallel Lines, which are cut by as many parallel ones. Theſe Interſections make Spaces of a Rhomboidal Figure; and out of each Angle, for the greateſt part, grows a Hair, ſhorter or longer, as Nature requires in the ſeveral Parts of the Body: but in the Palm of the Hand, where there are no Hairs, theſe Lines do not interſect one another; and on the Ends of the Fingers they are ſpiral. The Skin is ſix times thicker than the Scarf-Skin; and in the Sole of the Foot it is much thicker than in the Face, Hands, and other Parts. In the Summer it is ſofter, becauſe the Pores are wider. In the Winter it is more compact and harder, becauſe the Pores are more cloſe; therefore the Hairs of Beaſts ſtick faſter, and Furs made of them are better in that Seaſon. In ſome this Skin is white, in others black and tawny, which probably comes from the different Colours of the Mucus, which covers the *Parenchyma* of the Skin; for the Fibres of the Skin in all are white, and there is little or no difference in the Colour of different Bloods. The Skin is not only a Covering in which all the Parts of the Body are wrapped up; but in it alſo Nature has placed the Organs of the Senſe of Feeling, ſo that not the leaſt thing hurtful can aſſault us without our Knowledge: and as it preſerves us from external Offences, ſo it relieves us of noxious and ſuperfluous internal Humours; its Glands being the *Emunctories* of the whole Body, thro' which not only the peccant Humours paſs, but likewiſe the greateſt part of the Liquors which we drink, which having Part of their Office in conveying the Aliments into the Blood, are in the next place to diſſolve the ſaline and terreſtrial Particles to be carried off thro' the Glands of the Skin and Kidneys. Now the Sum of all theſe Particles ſtrained thro' the cuticular Glands, is by *Sanctorius* reckoned to amount to about 50 Ounces in *Italy*; ſo that ſuppoſe a Man's Body to weigh 160 Pounds, then in 51 Days we perſpire a Quantity equal to the Weight of the whole Body. And from the Conſideration of this and other Evacuations, our Bodies are ſaid to be renewed and changed in ſome ſtated times: but that the Veſſels or ſolid Parts of the Body do conſtantly decay, waſte, and evaporate, does not at all ſeem probable; nor if they do, is it poſſible to determine in what time there is a total Change; and I am more apt to think, that the Fluids only conſume, of which tho ſeveral Pounds are daily loſt, yet it is not from thence certain when the old Stock is ſpent, and the Veſſels filled with new Juices: for beſides that the true Quantity of Blood in the Body is not certainly known, we can never be ſure whether they are new or old Juices, or a Mixture of both, which are conſtantly flying off; and if a Mixture, which is moſt probable, in what proportion they are mixed, which muſt neceſſarily be known in order to determine when the old Maſs is entirely evacuated. But that part of our native Blood does remain in the Body, even to the laſt Stages of Life, ſome think credible from hence, that the Small-Pox comes upon many at 80 or 90 Years of Age; but whether that is concluſive, we have not leiſure here to examine.

Cycliſcus, from κύκλος, *Circulus*, a Circle, is an Inſtrument in the form of a half Moon, uſed by the Surgeons to ſcrape away Rottenneſs.

Cycloid, is the Curve deſcribed by a Point in the Periphery of a Circle, rolling upon a ſtrait Line.

Cylinder, is a ſolid Body made by the Rotation of a rectangular *Parallelogram* about one of its Sides; ſo that when in Anatomy a Veſſel is ſaid to be cylindrical, or a Cylinder, 'tis meant that it is ſo ſhaped, as not to be narrower at one End than another, but that it is of the ſame Diameter in all Places, contrary to a Cone or a Conical Veſſel; which ſee.

Cyma, is a Term in Botany ſignifying the Top of any Plant or Herb.

Cymatodes, is applied by *Galen* and ſome others to an unequal fluctuating Pulſe.

Cynanthropia, is uſed by *Bellini de Morbis Capitis*, to expreſs a particular kind of Melancholy, when Men fancy themſelves changed into Dogs, and imitate their Actions.

Cynodectos, from κυνόδηκτος, ſo *Dioſcorides* calls a Perſon bit with a mad Dog.

Cynolyſſa, or *Cynolyſſus*, is uſed by *Liſter, Exercit.* 3. *de Morbis chron:* in the ſame ſenſe as *Rabies canina*, the Madneſs peculiar to a Dog.

Cynorexia, is the canine, or greedy Appetite, that is not eaſily to be ſatisfied.

Cyrenaicus, is applied to the Juice of the *Laſerpitium* of the Antients, from the Country where it moſtly flouriſhed, by *Scribonius Largus, Ægineta,* and ſome others; as it is alſo taken notice of under the ſame Diſtinction by *Sanctorius* in his Aphoriſms.

Cymbiforme Os. See *Naviculare Os.*

Cynodentes, from *χυων, Canis,* a Dog, and *Dens,* a Tooth; Dog-Teeth: ſo called for their Shape, reſembling the two large Teeth of a Dog's lower Jaw. See *Teeth.*

Cyſticks, are Medicines preſcribed in any Diſorders of the Bladder; becauſe,

Cyſtis, from *κυ'ςις, Veſica,* a Bladder, ſignifies any Part of the Body ſo called, as the Urinary Bladder, or Gall-Bladder. And,

Cyſticus Ductus, is a Pipe that goes from the Neck of the Gall-Bladder, not in a ſtrait Line with the Bladder, but, as it were, more depreſſed in the Liver; into which ſome bilious Ducts likewiſe open, and its inner Membrane has ſeveral *Rugæ,* to retard the Motion of the Bile. See *Jecur.*

Cyſtic, is alſo applied to the Arteries and Veins communicating between the *Vena Portæ* and Liver.

D.

D*Acryon, δάκρυον,* ſignifies properly a Tear; whence *Dacryodes* is by *Hippocrates* applied to a particular kind of weeping Ulcer. And,

Dacryopoeos, is ſaid of thoſe things which excite Tears by their Acrimony, as Onions, Horſe-Radiſh, and the like.

Dædalus, is a Name given by ſome Chymiſts to Mercury, on account of its great Volatility with Heat, from a Perſon ſo called, who invented Wings to fly with.

Dæmon, which ſtrictly ſignifies a Spirit either good or bad, hath not likewiſe eſcaped Torture from the Application of ſome Writers in Medicine, moſt of which are too ridiculous to take notice of; but as it is taken in a bad ſenſe, its derivative *Dæmoniac* is moſt juſtly aſcribed to ſuch Diſtempers as cannot be aſſigned to natural Cauſes, but are ſuppoſed from the Influence of Poſſeſſion by the Devil: tho even ſuch Notions have now long ſince been exploded.

Damnata Terra. See *Caput Mortuum.*

Daphnilæon: Diaſcorides thus calls the Oil of Bays, from *Daphne,* the Nymph reported by the Poets to have been changed into that Tree.

Dartos, is the inner Coat of the *Scrotum,* compoſed of many fleſhy or muſcular Fibres, by means of which the *Scrotum* is contracted; and which is reckon'd a Sign of Health. But the reaſon of this Name from its Etymology we cannot learn. For *δάρσις* ſignifies Excoriation, and by Anatomiſts is ſometimes applied to raiſing the Membranes from their included Parts, particularly by *Veſalius.*

Data, from the Participle of *do,* to give, is a Term uſed for ſuch Things or Quantities as are ſuppoſed to be given or known, in order to find out thereby other Things or Quantitys, which are unknown or ſought for. And this, which was firſt tranſplanted from the Mathematicks into Medicine, expreſſes any Quantity which for the ſake of a preſent Calculation is taken for granted to be ſuch, without requiring an immediate Proof for its certainty: and this is call'd the given Quantity, Number, or Power: and ſuch Things as are known, from whence either in the animal Mechaniſm, or the Operation of Medicines, we come to the Knowledge of Things before unknown, are now frequently in phyſical Writers called *Data.*

Dealbation, hath been uſed by the Chymiſts and Refiners, for rendering things white which were not ſo before, but is now almoſt grown into Diſuſe.

Deambulation, ſtrictly ſignifies Motion of the Body by walking, but by *Hippocrates* is applied to Inquietude of the Mind.

Dearticulation. See *Diarthroſis.*

Death, in Medicine, is a total Stoppage of the Blood's Circulation.

Debility, is a Relaxation of the Solids, that induces Weakneſs and Fainting.

Decantation, is the pouring off any Liquor clear from its Fæces.

Deciduous, ſignifies that which is apt and ready to fall; and thus Botaniſts ſay, in ſome Plants the *Perianthium* or *Calyx* is deciduous with the Flower, *i. e.* falls from off the Plant with it. It is alſo applied to ſome Parts of the Body in a ſtate of Relaxation, as by *Joh. Stephanus* in his Notes upon *Avicen* to the *Uvula,* which he calls *Uvula Decidua.*

Declenſion, is when a Diſeaſe is paſt its Height, and the Symptoms abate.

Decoction, is any thing boiled, from *decoquo,* to boil; ſee *Apozem.*

Decortication, is ſtripping any thing of its Bark or Shell, from *de,* from, and *Cortex,* Bark.

Decripitation, is a Term much uſed by *Ludovicus* and *Wedelius* for the crackling Noiſe which Salt makes when put over the Fire in a Crucible.

Decurtatus, is by ſome applied to a Pulſe which grows weaker every ſtroke, until an entire Ceſſation; or if it recovers again, it is called *Pulſus Decurtatus reciprocus*; ſee *Galen de different. Pulſ. Lib.* I. *Cap.* 11.

Decuſſation, is when Lines croſs one another; and is the Caſe of many Muſcles and Membranes, where the Fibres run over one another in greater or leſſer Angles, and give both Strength and Conveniency of Motion different ways, much in the ſame manner as Threads are made in a Net.

Decuſſorium, is a Surgeon's Inſtrument wherewith the *Dura Mater* is preſſed down in the Operation of the Trepan, to ſave it from Damage.

Defenſitive, is ſaid of a Plaiſter or Bandage whereby Surgeons keep on their Dreſſings, and ſecure Wounds from the Air.

Deferentia Vaſa. See *Generation,* Parts of.

Deflagration, ſignifies burning away any thing, and is a Term frequently made uſe of in Chymiſtry for ſetting fire to ſeveral things in their Preparation; as in making the *Æthiops* with Fire, the *Sal Prunellæ,* and many others of the like Nature.

Defluxion, ſignifies a running off, or flowing of any Liquid; from *de,* and *fluo* to run off; and generally expreſſes the Rheum in a *Catarrh,* or a ſudden diſcharge of thin Humours upon any part.

Deglutition, Swallowing. See *Larynx.*

Dejection, from *dejicio* to caſt off. Going to Stool is ſo called.

Deleterious, probably from δηλέω, *noceo,* to hurt; thoſe things are ſo called which are of a poiſonous nature. *Galen* applies it to all Catharticks, on a ſuppoſition that they muſt contain ſomewhat inimicous to the human Body, to make them occaſion ſuch Commotions in it.

Deliquium, ſignifies Swooning away, from what Cauſe ſoever; and

Deliquium, is alſo a Term in Chymiſtry, to expreſs the particular Fuſion of ſome lixivious Salts in a moiſt Air, as Oil of Tartar *per Deliquium.*

Delirium, is an Incapacity in the Organs of Senſation to perform their Function in due manner, ſo that the Mind does not reflect upon, and judge of external Objects as uſual; as is the Caſe frequently in Fevers, from too impetuous a Hurry of the Blood, which alters ſo far the Secretion in the Brain, as to diſorder the whole nervous Syſtem. See *Narcoticks.*

Deltoides, is a triangular Muſcle, which is thus called from Δ, the *Greek* Delta, and εἶδος, *Forma,* Shape. It ariſes exactly oppoſite to the *Trapezius* from one third part of the *Clavicula,* from the *Acromium* and Spine of the *Scapula,* and is inſerted tendinous into the middle of the *Os Humeri,* which Bone it lifts up directly; and it aſſiſts with the *Supra Spinatus* and *Coracobrachialis* in all the Actions of the *Humerus,* except the Depreſſion; it being convenient that the Arm ſhould be raiſed and ſuſtained, in order to its moving on any ſide.

Demonſtration, is a Chain of Arguments depending on one another, and founded primarily in ſelf-evident Principles; but more ſtrictly it is that way uſed by Mathematicians, of proving their Aſſertions by ſuch ſteps as keep the Image or Picture of what is expreſſed by the ſeveral Terms in a Propoſition always in view; and often therefore requires the Help of Diagrams; whereby the Mind is conducted thro' the whole with as much certainty, as in actually numbering ſo many pieces of Money out of one Hand into another. And for this reaſon it is, that in Mathematicks, to which this Term is appropriated, Perſons at a diſtance from one another, ſhall draw the ſame Concluſions from the ſame Premiſes without the leaſt Variation, as much as the ſame Sums to be added togethet will always produce the ſame Total. But when this is apply'd to Purpoſes not attended with equal certainty, it is with great impropriety; tho often done by Perſons too opinionated of their own Abilities and Speculations.

Denſity, is that Property in Bodies which ariſes from a Texture wherein more Matter is contained in any given Surface, or, which is the ſame thing, wherein there are fewer Pores; and the manner or means of occaſioning this, is called Condenſation. The Fluids, whoſe Denſity it is of the moſt importance to be acquainted with, in order to judge of the Atmoſpherical Preſſure, and many of its Conſequences, are Air, Water, and Quickſilver; and according to Sir *Iſaac Newton's* Calculation, Water is to Air as 800 or 850 to 1, allowing the Mercury in the Boroſcope to be at the height of 30 Inches; the Denſity of Quickſilver to Water as $13\frac{1}{2}$ to 1; and conſequently the Denſity of Quickſilver to Air, is as 11617 to 1.

Dentagra, ſignifies the Tooth-ach; but is applied alſo to Inſtruments to draw Teeth with, of the Figures of which *Parey* gives many Examples.

Dentarius, is a Perſon profeſſing to draw Teeth, or remedy their Diſorders; and

Dentiſcalpium, is an Inſtrument to clean the Teeth with, as alſo one deſcribed by *Scultetus* to ſeparate the Gums from the Teeth, to facilitate their Extraction.

Dentes, the Teeth, are the hardeſt and ſmootheſt Bones of the Body; they are formed in the Cavities of the Jaws, which are lined with a thin Membrane; upon which there are ſeveral Veſſels, thro' which there paſſes a thick tranſparent Humour, that, as it increaſes, hardens in form of Teeth: and about the ſeventh or eighth Month after Birth, they begin to pierce the Edge of the Jaw, tear the *Perioſteum* and Gums; which being very ſenſible, create a violent Pain, and other Symptoms incident to Children in the time of Toothing. They begin not to appear all at a time, firſt the *Dentes inciſivi* of the upper, and then thoſe of the lower Jaw appear, becauſe they are the thinneſt and ſharpeſt; after them come out the *Canini*, becauſe they are ſharper than the *Molares*, but thicker than the *Inciſivi*; and laſt of all the *Molares*, becauſe they are thickeſt and blunteſt. Of this viſcous tranſparent Liquor, which is the Subſtance of the Teeth, there are two Layers, the one below the other, divided by the ſame Membrane, which covers all the Cavity of the Jaw: The uppermoſt Layer forms the Teeth which come out firſt, but about the ſeventh Year of Age they are thruſt out by the Teeth made of the undermoſt Layer, which then begin to ſprout; and if theſe Teeth be loſt, they never grow again: but if ſome have been obſerved to ſhed their Teeth twice, they have had three Layers of this viſcous Humour, which hardly ever happens. About the one and twentieth Year the two laſt of the *Molares* ſpring up, and they are called *Dentes Sapientiæ*.

Dentifrice, is a Medicine to cleanſe or faſten the Teeth, of what Form ſoever, whether in Liquid or Powder.

Dentiformis Proceſſus. See *Pyrenoides*.

Dentition, is the Time wherein Children are breeding their Teeth.

Deobſtruent, from *deobſtruo*, to open is ſaid of ſuch Medicines as open Obſtructions; ſee *Detergent*. But there is yet ſomewhat further expreſſed in this Term than is to be apprehended under that; for a Medicine may be deobſtruent, that is not in the ſtricteſt ſenſe detergent, as are moſt made of metalline Subſtances, ſuch as Steel and Mercury; which obtain this Appellation from their acting by their natural Weight, whereby they increaſe the Momentum of the circulating Fluid, and make it ſtrike againſt the ſecretory Outlet with a greater Force: becauſe the *Momenta*, or *Vis Percuſſionis* of all *Projectils*, of which kind is a circulating Fluid, is as their Solidities, ſuppoſing their Velocities equal. The more therefore the animal Fluids are ſaturated with denſe and ſolid Particles, with the greater Force they diſtend the Veſſels, and the more eaſily break thro' where the Structure favours their eſcape; and upon that account are Medicines which add to theſe Qualities in the Fluids called Deobſtruents. See *Mars*.

Deoppilatory, the ſame as *Deobſtruent* ; which ſee.

Dephlegmation, is ſuch an Operation as takes away the Phlegm from any ſpirituous Fluid, as by repeated Diſtillation it is at length left all behind : and thus

Dephlegmated Spirit, is ſuch Spirit as has no mixture of Phlegm.

Depilatory, from *de,* of or from, and *Pilæ,* Hair ; is ſuch a Medicine as takes the Hairs off from any place where they are a Deformity, which may commodiouſly be done with *Rusma* ; which ſee.

Depreſſor Labii inferioris, or *Quadratus,* is a Muſcle conſiſting of ſome thin fleſhy Fibres, which lie immediately under the Skin upon the Chin ; they ariſe from the Edge of the fore-part of the under Jaw, and are inſerted into the upper Lip.

Depreſſor Labii ſuperioris, or *Triangularis,* is a Muſcle that ariſeth from the lower Edge of the under Jaw, between the *Maſſeter* and *Quadratus,* and aſcendeth by the Angle of the Mouth to the upper Jaw. Theſe two Muſcles acting together, expreſs a ſorrowful Countenance, becauſe they draw downwards the Corners of the Mouth and Cheeks.

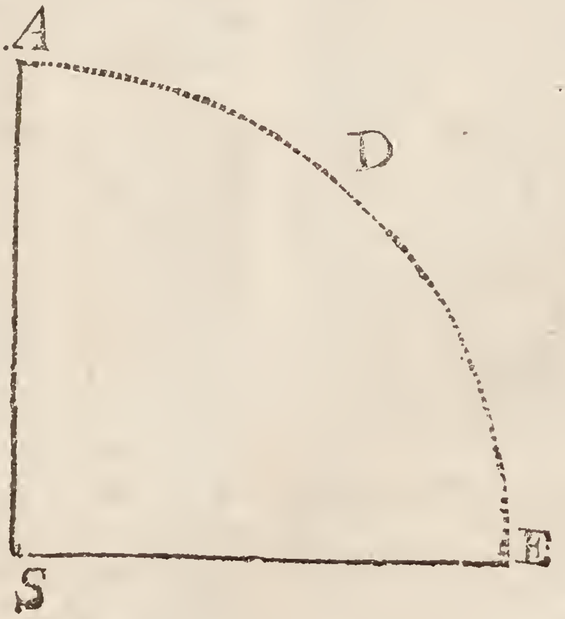
Depreſſores Naſi, are a Pair of Muſcles ariſing from the *Os Maxillare,* above the *Dentes inciſorii,* and are inſerted into the Extremities of the *Alæ,* which they pull downwards.

Deprimens Oculi. See *Eye.*

Depuration, ſignifies the freeing any Liquor or ſolid Body from its foulneſs, which may be effected various ways. See *Clarification.*

Derivation, is the drawing away of Humours, that threaten any noble part, to be diſcharged by ſome other below, where there is not much Danger ; as in Defluxions upon the Eyes, to apply a Bliſter to the Neck. And ſuch a tranſlation of Humours ſometimes alſo proceeds from natural Cauſes.

Deſcent of heavy Bodies : If a Body deſcend from *A* by its proper Gravity, it will come to the Center *S* in the ſame time as another ſuch like Body by its Revolution ſhall deſcribe the Quadrant *A D E.* *Princ. Phyſ. Math. Lib.* 1. *Prop.* 38. *Cor.* 1.



Wherefore abſtracting from the Reſiſtance of the *Medium*, all Bodies muſt needs deſcend equally ſwift, and come to the Center from the ſame Height at the ſame time, as in Fact is found by Experiment true.

An heavy Body let fall from any Height near the Surface of our Earth, deſcends in a Second of Time $16\frac{11}{24}$ Feet *Engliſh*, or 197 Inches and $\frac{1}{2}$.

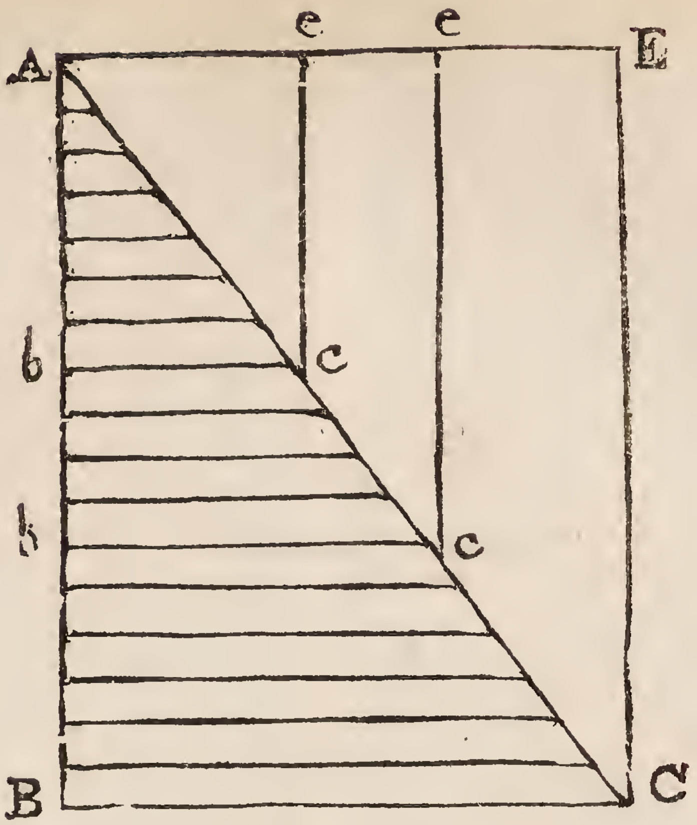
Prop. 1. The Velocities of deſcending heavy Bodies are proportionate to the Times from the Beginning of their Falls. This follows (ſaith the learned Dr. *Halley*, *Philoſ. Tranſ. N.* 179.) becauſe the Action of Gravity being continual, in every Space of Time the following Body receives a new Impulſe equal to what it had before in the ſame Space of Time received from the firſt Power: *v. gr.* in the firſt Second of Time a Body hath acquired a Velocity, which in that time would carry it a certain Diſtance, ſuppoſe 32 Foot 2 Inches, and there were no new Force, it would continue to deſcend at that rate with *an equable Motion:* But in the next Second of Time, the the ſame Power of Gravity continually acting thereon, ſuperadds a new Velocity equal to the former; ſo that at the end of two Seconds, the Velocity is double to what it was at the end of the Firſt. And after the ſame manner may it be proved to be triple at the end of the third Second, and ſo on. Wherefore the Velocities of falling Bodies are proportionate to the times of their Falls. *Q. E. D.*

Prop. 2. The Spaces deſcribed by the Fall of a Body, are as the Squares of the Times from the Beginning of the Fall.

Demonſt. Let *A B* repreſent the Time of the Fall of a Body *B C*, perpendicular to *A B*, the Velocity acquired at the End of the Fall, and draw the Line *A C*; then divide the Line *AB*, repreſenting the Time, into as many equal Parts as you pleaſe, as *b b b b*, *&c.* and from theſe Points draw the Lines, *b c*, *b c*, *&c.* parallel to *B C*; 'tis manifeſt that the ſeveral Lines *b c* repreſent the ſeveral Velocities of the falling Body, in ſuch Parts of the Time as *A B* is of *AB:* It is evident likewiſe, that the *Area A B C* is the Sum of all the Lines *b c* taken together, which according to the Method of Indiviſibles, are infinitely many: ſo that the *Area A B C* repreſents the Sum of all the Velocities, between none and *B C* ſuppoſed infinitely many; which Sum is the Space deſcended in the Time repreſented by *A B*. And by the ſame reaſon the *Area's A b c* will repreſent the Spaces deſcended in the Times *A b*. So that the Spaces deſcended in the Times *A B*, *A b*, are as the *Area's* of the Triangles *A B C*, *A b c*; which, by the 20th of the 6th of *Euclid*, are as the Squares of their *Homologous Sides A B*, *A b*, that is to ſay, the Times: wherefore the Deſcents of falling Bodies are as the Squares of the Times of their Fall. *Q. E. D.*

Prop. 3. The Velocity which a deſcending Body acquires in any Space of Time, is double to that wherewith it would have moved the Space deſcended by an equable Motion in the ſame time.

Demonſt. Draw *E C* parallel to *A B*, and *A B* parallel to *B C*, and compleat the Parallelogram *A B C E*; it is evident that the *Area* thereof may repreſent the Space, a Body moved equally with the Velocity *B C* would deſcribe in the Time *A B*; and the Triangle *A B C* repreſents the Space deſcribed by the Fall



Fall of a Body in the ſame time *AB* (by the foregoing Propoſition.) Now the Triangle *A B C* is half the Parallelogram *A B C E*, and conſequently the Space deſcribed by the Fall, is half what would have been deſcribed by an equal Motion with the Velocity *B C* in the ſame time; wherefore the Velocity *B C* at the End of the Fall, is double to that Velocity which, in the Time *A B*, would have deſcribed the Space fallen, repreſented by the Triangle *A B C*, with an equable Motion. *Q. E. D.*

Prop. 4. All Bodies, on or near the Surface of the Earth, in their Fall deſcend ſo, as at the end of the firſt Second of Time they have deſcribed 16 Feet, 1 Inch, *London*-Meaſure, and acquired the Velocity of 32 Feet, 2 Inches in a Second.

This is made out from the 25th *Propoſition* of the 2d Part of Mr. *Huygens de Horologio Oſcillatorio*; wherein he demonſtrates the time of the leaſt Vibrations of a *Pendulum*, to be to the Time of the Fall of a Body from the Height of half the length of the *Pendulum*, as the Circumference of a Circle to its Diameter; whence, as a *Corollary*, it follows, That as the Squares of the Diameter are to the Square of the Circumference, ſo half the Length of the *Pendulum* vibrating Seconds, is to the ſpace deſcribed by the Fall of a Body in a Second of Time; and the Length of a *Pendulum* vibrating Seconds being found 39, 125, or $\frac{1}{8}$ Inches, the Deſcent in a Second will be found by the aforeſaid Analogy 16 Feet and 1 Inch; and by the laſt *Propoſition* the Velocity will be double thereto. And near to this it hath been found by ſeveral Experiments, which, by reaſon of the Swiftneſs of the Fall, cannot ſo exactly determine its Quantity.

From theſe four *Propoſitions* all Queſtions concerning the *Perpendicular Deſcent of Bodies* are eaſily ſolved; and either Time, Height, or Velocity being aſſigned, one may readily find the other two.

From them likewiſe is the Doctrine of *Projectils* deducible, aſſuming the two following Axioms, *viz.*

1. That a Body ſet a moving, will move on continually in a right Line with an equable Motion, unleſs ſome other Force or Impediment intervene, whereby it is accelerated, or retarded, or deflected.

2. That a Body being agitated by two Motions at a time, does by their compounded Forces paſs thro' the ſame Points as it would do, were the two Motions divided and acted ſucceſſively.

Deſiccative, from *deſicco*, to draw away, or dry up. Medicines are thus called wich are drying, and uſed to skin over old Sores.

Deſpumation, from *de ſpuma*, froth off: is the Clarification of any Liquor by throwing up its Foulneſs in a Froth, and taking that off.

Deſquammation, from *de ſquamma*, ſcales off, expreſſes the cleanſing carious Bones which flake off like Scales.

Deſtillation, or *Diſtillation* : This is a Proceſs very common in both *Pharmacies* ; but yet the Rationale of it may be ſo little known, as to make it worth while to be ſomewhat particular in its Explanation ; and eſpecially as the Reaſoning hereupon will give a good Inſight into ſome other Matters of conſequence within the ſame Study. This Proceſs is chiefly managed either by the right or oblique Diſtillation ; the firſt is by the Aſcent and Elevation of Particles, which after deſcend again in the Form of Drops, and is uſed when the Texture of a Body is ſuch, as allows of an eaſy Aſcent, of which kind are Vegetables : but the oblique is deſigned, for the moſt part, for ſuch as conſiſt of heavier Particles, and cannot be raiſed without a ſtrong Impulſe, and by the moſt forcible, not ſo high as the top of an Alembick ; and theſe are almoſt all Minerals and Metals. Now the Aſcent of Fluids is chiefly promoted two ways ; firſt upon the account of their ſpecifick Levity ; and ſecondly, by Impulſe. The firſt way of Elevation is manifeſt from this *Lemma*, viz. *That Particles of Bodies which ſwim in any Fluid, if they are ſpecifically lighter, muſt be borne upwards by that Fluid.* Therefore ſince diſtill'd Liquors are carried upwards thro' the Air, it's to be inquired how they can be ſpecifically lighter than the Air. Now a Fluid may be ſpecifically lighter than another, when under a larger Surface, it has an equal or leſs Gravity : According to this Proportion, the Bulk of this Fluid ought to be increaſed in Diſtillation : and how eaſily by the help of Fire it may be increaſed, or, which is the ſame thing, rarify'd, one who is but tolerably well verſed in Phyſicks, may comprehend. And whoſoever has but obſerved a Thermometer, or boiling Water, muſt be ſenſible how great a Quantity of Air there is contained almoſt in all Fluids, and what a Force there is in Heat to rarefy it ; for Rarefaction is nothing but the ſame Quantity of Matter diffuſed into a greater Space ; ſo that the ſame Weight remains, tho the Bulk grows much larger. From whence 'tis plain, there muſt be a greater Number of Pores in the rarefy'd Body, which are either intirely void of all Matter, or at leaſt of ſuch Matter as hath any conſiderable Gravity. Further therefore it is neceſſary to know, what Proportion of Rarafaction is ſufficient to produce this ſpecifick Levity. And to ſet this Matter in the cleareſt

Light, it is moſt proper to begin with the ſimpleſt Bodies; as for inſtance, that of Water. 'Tis known by Computation, that the Proportion of the ſpecifick Gravity of Water to that of Air, is ſomething more than 800 to 1. Since therefore *Similar Spheres, or Solids, are as the Cubes of their Diameters*, and the ſpecifick Gravity decreaſes reciprocally in the very ſame proportion as the Cubes of their Diameters increaſe; in order to make a Particle of Water lighter than a Particle of Air, no more is neceſſary than to rarefy it till its Diameter becomes ten times greater, which in this Caſe is but a very ſmall degree of Rarefaction: for the Cube of the Diameter, in a Particle ſo rarefy'd, is 1000. If the Diameter be made eleven times greater, the Cube will be 1331; and if twelve, 1728. So that Water when rarefy'd but twelve Degrees, will be above doubly lighter than Air. And if the Rarefaction be carried on further, it may eaſily be collected from the encreaſe of the Numbers, that a Particle of Water may be render'd almoſt infinitely lighter than Air. And to bring this a little nearer to the preſent purpoſe, 'tis manifeſt that the Elevation of Bodies, equally fluid and heavy, is always proportionable to their different Aptitude to be rarefy'd; that is, they aſcend quicker upon the Application of any Force, the more ſuſceptible they are of Rarefaction: but in Bodies whoſe Aptitudes to rarefy are equal, the time of Aſcent is to be determined by their ſpecifick Gravity. But not only ſpecifick Levity ſerves to elevate Bodies in Diſtillation, but an external Impulſe may alſo cauſe their Aſcent. The Impulſe which here we have to do with, comes from the Fire, whoſe Particles, tho they are extremely ſmall and light, yet it's demonſtrable by Mechanicks, that they may raiſe Bodies much heavier than themſelves by acting upon them with a certain Degree of Force: For ſince *the Moment of a Body, or that Force by which it acts upon another, is in a compound Ratio of the Quantity of Matter and Celerity*; the Celerity may be ſo increaſed, as to give a ſufficient Force to the Body, tho the Quantity of Matter in it be ever ſo ſmall. Let ſome heavy Body therefore be ſuppoſed to deſcend with no other Moment than what it receives from its own Gravity, in this Caſe then, the Air, which is much lighter, may be moved with that Celerity, as not only to ſuſtain that Body, but to mount it up higher; and the more rapid the Impetus of the Air is, or the Surface of the Body more diffuſed, the higher and ſwifter will the Elevation be; juſt as we ſee Sheets of Lead ſometimes torn away entire by the Wind, and carry'd aloft thro' the Air. In like manner, Fire, tho it be a Body of very minute Particles, may be moved with that rapidity, as to acquire and communicate what Force can be imagined towards removing any Obſtacles. When therefore the Moment of Fire is augmented in the manner explained, ſo as to exceed the Force of the diſtill'd Body, it will remove it from its former ſituation; or what is here the ſame thing, becauſe the direction of its Motion tends upwards, will carry it up. Thus Particles ſpecifically heavier than Air, which is contained in the Retort, as thoſe of acid Spirits are, aſcend by a more violent Impulſe of the Fire uſed in Diſtillation. And another material thing which contributes to this purpoſe, is, That the ſame Quantity of

Matter is elevated ſo much the eaſier, in proportion as the Surface is inlarged; for the more this is diffuſed, the more Particles of Fire it receives: and ſo, having this united Force to drive it up, it more eaſily aſcends; ſo that by the ſame degree of Fire, Bodies will not equally ariſe, tho' they are equally heavy, if there be that difference in their Surfaces already ſuppoſed. The Air alſo has no ſmall Share in the Buſineſs of Impulſe; for being rarefy'd by the Fire, it is not only impelled upwards it ſelf, but carries other Particles up with it: And it may be learned by many very familiar Experiments, what Impetus Bodies ſo rarefy'd exert. Whoſoever therefore conſiders well theſe three Things, viz. *Specifick Levity*, an *Impelling Force*, and the *Extent of Surface*, and what may be effected by them, and how many ways, and in what Proportions all of them may be changed, will very eaſily account for all the Variety which is found in the ſeveral Proceſſes of Diſtillation.

Deſudation, from *deſudo*, to ſweat off; expreſſes a profuſe and inordinate Sweating, from what Cauſe ſoever.

Detergent. Medicines under this Denomination, are not only ſoftning and adheſive, but alſo by a peculiar Activity or Diſpoſition to Motion, joined with a ſuitable Configuration of Parts, are apt to abrade and carry along with them ſuch Particles as they lay hold on in their Paſſage. All Medicines of this Intention are ſuppoſed to cleanſe and heal, that is, incarnate or fill up with new Fleſh all Ulcerations, and Foulneſſes occaſioned thereby, whether internal or external. Now to do this, in all internal Caſes eſpecially, the Medicine muſt be ſuppoſed to maintain its primary Properties, till it arrives at the Place of Action; and there it does what entitles it to the Appellation of a Detergent and a Vulnerary, firſt by its adheſive Quality, which conſiſts in the comparative largeneſs of Surface, and Flexibility of its component Parts. For by this it very readily falls into contact with, and adheres to the Slough of ulcerous Exudations, which by their looſe Situation are eaſily carried along with the Medicine; and when ſuch Matter is ſo carried away, which is the cleanſing or deterging Part, what was inſtrumental in this Office will afterwards ſtick to and adhere with the cutaneous Filaments, until by their Addition, and the protruſion of proper Nouriſhment, *ab interno*, to the ſame Place, the Waſte is made up, that is, the Ulcer is healed. And after the ſame manner is the Operation of ſuch Subſtances to be accounted for in external Application. By the warmth of their Parts they rarefy, and by their adheſive Quality they join with and take off along with them in every Dreſſing what is thrown upon the Place to which they are applied, until a more convenient Matter is brought thither by the circulating Juices, which it aſſiſts in adhering to, and incarnating the eroded Cavities. Only this may be taken notice of, that internally whatſoever of this kind is mixed with the animal Fluids, by the known Laws of Circulation they will be firſt ſeparated and left behind: For all thoſe Parts which are ſpecifically heavieſt, will move neareſt the Axis of the Canals, becauſe their Momenta are the greateſt, and will carry them as near as can be in ſtrait Lines; but the lighter Parts will always be joſtled to the ſides, where they ſooneſt meet with Out-lets to get quite off, or are ſtruck into ſuch Cavities we are here ſpeaking of, in which they adhere and make part of the Subſtance. This for the milder Degree of Detergents; and it is eaſy to conceive from hence how an increaſe of thoſe Qualities of Activity and Adheſion conjointly may make a Medicine ariſe to the greateſt Efficacy in this reſpect. And it is upon this foot that all thoſe Medicines operate that are given to cleanſe Obſtructions or Foulneſſes in any of the *Viſcera* or Paſſages; and which may be increaſed in Efficacy ſo far as to fetch off even the Membranes and Capillary Veſſels.

Detonation: This properly expreſſes ſomewhat more forcible than the ordinary crackling of Salts in Calcination, as in the going off of the Pulvis or *Aurum Fulminans*, or any ſuch like Subſtance, from *detono*, to thunder off. It likewiſe is uſed for that Noiſe which happens upon the Mixture of Fluids that ferment with Violence, as Oil of Turpentine with Oil of Vitriol, reſembling the Exploſion of Gunpowder. See *Decrepitation.*

Detruſor Urinæ. See *Bladder.*

Devarication, expreſſes any two things croſſing one another, and is very often applied to the particular Tendencies of the Muſcular Fibres when they interſect each other at different Angles, which they frequently do.

Dia, in *Greek*, ſignifying *ex* or *cum*, of or with, is frequently prefixed in the Name of ſome Medicines to the principal Ingredient therein; as *Diaſcordium* is a Compoſition wherein *Scordium* is the chief Ingredient; *Diaſena* from *Sena*, and ſo of many others.

Diabetes: This is a profuſe Diſcharge by Urine, from διαβαίνω, *pervado*, to run through. The evident and moſt common cauſe is the too great Uſe of ſpirituous Liquors, whereby the *Serum* is ſo impregnated therewith, that it will not attract and join with the Salts of the Blood, and therefore runs off by the Kidneys ſweet or inſipid. The Cure therefore conſiſts in diluting with aqueous Liquids, eſpecially thoſe impregnated with a lixivial Salt, becauſe they attract the urinary Salts moſt, from their Similitude to one another, as Lime-Water, and the like; and in withdrawing the Cauſe.

Diaclyſm. The ſame with *Gargariſm.*

Diacodium, is the Syrup of Poppies; from δια, *cum*, with, and κωδία, *Codia*, which in Botany ſignifies the Top or Head of any Plant; but by way of Preheminence particularly the Poppy.

Diæreſis, is a Diviſion or Solution of Continuity in any part of the Body, from διαιρέω, *divido*, to divide.

Diagnoſtick, from διά, *per*, with or thro', and γινώσκω, *cognoſco*, to know; is that Judgment of a Diſeaſe that is taken from the preſent Symptoms, and Condition of the Patient.

Diapedeſis, is ſuch a Rupture of the ſides of a Veſſel of the Body from an internal Cauſe, as leaves conſiderable Interſtices between the Fibres thro' which the Contents eſcape, from διά, *per*, thro', and πηδάω, *alio*, to leap.

Diagrydium, is a Preparation of *Scammony*, which ſee in the *Diſpenſatory.*

Diaphanous, from διά, *per*, thro', and φαίνω, *luceo*, to ſhine; is any tranſparent Body that may be ſeen thro', as the Humours of the Eye, the *Cornea Tunica*, &c.

Diaphoreſis, ſignifies all Evacuation made thro' the Habit of the Body and Pores of the Skin; ſee *Cutis.*

Diaphoreticks, are thoſe Medicines which procure Sweat.

Diaphragm, or *Midriff*, from διαφράσσω, *ſepio*, or *munio*, to hedge, or wall in. It is alſo called *Septum Tranſverſum*, or Croſs-Wall, ſo called from its Situation, becauſe it divides the Trunk of the Body into two Cavities, the *Thorax* and *Abdomen.* It is compoſed of two Muſcles; the firſt and ſuperior of theſe ariſes from the *Sternum*, and the Ends of the laſt Ribs on each Side. Its Fibres from this ſemicircular Origination, tend towards their Center, and terminate in a Tendon, or *Aponeuroſis*, which hath always been taken for the nervous Part of the Midriff. The ſecond and inferior Muſcle comes from the *Vertebræ* of the Loins by two Productions, of which that on the right Side comes from the firſt, ſecond, and third *Vertebræ* of the Loins; that on the left Side is ſomewhat ſhorter, and both theſe Productions join and make the lower Part of the Midriff, which joins its Tendons with the Tendon of the other, ſo as that they make but one Membrane, or rather Partition. It is covered with a Membrane on its upper Side, and by the *Peritonæum* on the lower Side. It is pierced in the Middle, for the Paſſage of the *Vena Cava*; in its lower Part for the *Œſophagus*, and the Nerves which go to the upper Orifice of the Stomach, and betwixt the Productions of the inferior Muſcle, paſſes the *Aorta*, the *Thoracick Duct*, and the *Vena Azygos.* It receives Arteries and Veins called *Phrenicæ*, from the *Cava* and *Aorta*; and ſometimes on its lower Part two Branches from the *Vena Adepoſa*, and two Arteries from the *Lumbares.* It has two Nerves which come from the third *Vertebræ* of the Neck, which paſs thro' the Cavity of the *Thorax*, and are diſperſed in the Muſcles of the Midriff. In its natural Situation it is convex on the upper Side towards the Breaſt, and concave on its lower Side towards the Belly: therefore when its Fibres ſwell and contract, it muſt become plain on each Side, and conſequently the Cavity of the Breaſt is enlarged to give liberty to the Lungs to receive the Air in Inſpiration; and the Stomach and Inteſtines are preſſed for the Diſtribution of the Chyle: but it diminiſhes the Cavity of the Breaſt, when it reſumes its natural Situation, and preſſes the Lungs for the Expulſion of the Air in Expiration.

Diary Fever, is a Fever of one Day. See *Ephemera.*

Diarrhœa, from διαῤῥέω, *perfluo*, to flow thro'; is a Flux of the Belly, whereby a Perſon frequently goes to ſtool: and it is cured either by purging off the Cauſe, or reſtringing the Bowels.

Diarthroſis, from διὰ, *cum*, with, and ἄρθρον, *Membrum*, ſignifies any kind of Articulation of the Bones; but particularly when the Joint is capable of conſiderable Motion: and of this there are two ſorts, the *Enarthroſis* or *Arthrodia*, and *Ginglymus.* See *Articulation.*

Diaſtole. See *Artery.*

Diatheſes, ſignifies any particular Diſpoſition of the Body, either good or bad.

Diatribus, *Diateſſaron*, and *Diapente*, from διὰ *cum*, with, and the Words ſignifying three, four, and five; are Medicines conſiſting of ſo many Ingredients.

Didymoi, δίδυμοι, ſignifies ſtrictly Twins, or any thing double, but is chiefly by Anatomiſts applied to the Teſticles; whence *Epididymi*, which ſee under Parts of Generation proper to Men.

Diet. The dietetic part of Medicine is no inconſiderable Branch of Medicine, and ſeems to require a much greater ſhare of regard than it commonly meets with. A great variety of Diſtempers might be removed by the Obſervance of a proper Diet and Regimen, without the aſſiſtance of Medicine; were it not for the Impatience of the Sufferers. However it may on all Occaſions come in as a proper Aſſiſtant to the Cure, which ſometimes cannot be performed with a due Obſervance of the Non-Naturals. That Food is in general thought the beſt and moſt conducive to long Life, which is moſt ſimple, pure, and free from Acrimony; not too volatile, but ſuch as approaches neareſt to the Nature of our own Bodies in an healthy State, or capable of being eaſieſt converted into their Subſtance by the *vis vitæ humana*; after it has been duly prepared by the Art of Cookery: But the Nature, Compoſition, Virtues and Uſes of particular Aliments, can never be learnt to Satisfaction without the Aſſiſtance of Practical Chymiſtry.

Dieteticks is that part of Phyſick which conſiders the way of living with relation to Food, or Diet ſuitable to any particular Caſe.

Digaſtricus, from δίς, *bis*, twice, and γαστὴρ, *Venter*, a Belly, is a Muſcle ſo called from its double Belly. It ariſeth fleſhy from the upper Part of the *Proceſſus Maiſtoidæus*, and deſcending it contracts into a round Tendon, which paſſes thro' the *Stylohyoidæus*, and an annular Ligament which is faſtned to the *Os Hyoides*; then it grows fleſhy again, and aſcends towards the middle of the Edge of the lower Jaw, where it is inſerted. When it acteth, it pulleth the lower Jaw down, by the help of an annular Pully, which alters its Direction.

Digeſtion Animal, is the Diſſolution or Separation of the Aliments into ſuch minute Parts as are fit to enter the lacteal Veſſels, and circulate with the Maſs of Blood; or it is the ſimple breaking of the Coheſion of all the little *Moleculæ* which compoſe the Subſtances we feed upon. Now the principal Agents employ'd in this Action, are, firſt, the *Saliva*, the Juice of the Glands in the Stomach, and the Liquors we drink, whoſe chief Property is to ſoften the Aliments, as they are Fluids which eaſily enter the Pores of moſt Bodies, and ſwelling them break their moſt intimate Coheſions. And how prodigious a Force Fluids acting in ſuch a manner have, may be learned from the Force that Water, with which a Rope is wetted, has to raiſe a Weight faſtned to, and ſuſtained at one end of it; and this Force is much augmented by the *Impetus* which the Heat of the Stomach gives to the Particles of the Fluid: nor does this Heat promote Digeſtion only thus, but likewiſe by rarefying the Air contained in the Pores of the Food, which helps to burſt its Parts aſunder. And therefore ſuch Liquors as are moſt fluid, or whoſe Particles have the leaſt Viſcidity, are moſt proper for Digeſtion, becauſe they can the moſt eaſily inſinuate themſelves into the Pores of the Aliments; and of all others, Water ſeems to be the fitteſt for this Uſe: for tho' ſome ſpirituous Liquors may as eaſily penetrate the Subſtances we feed upon, yet they have another Property, by which they hurt rather than help Digeſtion; and that is, their Particles have a ſtrong attractive Force, by which when imbibed into the Subſtance of our Victuals, they draw their Parts nearer to one another, contract and harden, inſtead of ſwelling and diſſolving them. It is by this Property that they preſerve animal and vegetable Subſtances from corrupting; not but that we find they ſometimes help Digeſtion, as they irritate and excite the Coats of the Stomach to a ſtronger Contraction: and therefore when they are duly diluted, they may not only be uſeful, but requiſite. When the Food is thus prepared, its Parts are ſoon ſeparated from one another, and diſſolved into a Fluid with the Liquors in the Stomach, by the continual Motions of its Sides, whoſe abſolute Power is demonſtrated to be equal to the Preſſure of 117088 Pound Weight: To which if be added the abſolute Force of the Diaphragm, and Muſcles of the *Abdomen*, which likewiſe conduce to Digeſtion, the Sum will amount to 250734 Pound Weight. See *Nutrition*.

Digeſtion Chymical, is that Solution of Bodies which is made by *Menſtruums*, with the Aſſiſtance of Fire, and differs from Solution little elſe than in requiring ſuch Aſſiſtance: And to underſtand this aright, it is neceſſary to ſhew how the Particles of Bodies can by this Proceſs be diffuſed every way, and ſuſtained in the *Menſtruum*. And this the more deſerves to be accounted for, becauſe theſe ſolid Particles have not the ſame ſpecifick Gravity as the Liquors in which they ſwim. Tho the Nature of a perfectly fluid Body be ſuch, as that the Particles which conſtitute it, do very readily give way upon the ſmalleſt Impulſe, and recede from one another; yet there is found in moſt Liquors ſome Degree of Tenacity: and from hence ariſes ſuch a Coheſion of Parts, as cannot be broken without ſome Force. And tho indeed this Force of Coheſion in Liquors ſeems to be but little or none at all, when compared with what we experience in Solids, yet we find it can make ſome Reſiſtance. And as the Force in Liquors is either ſtronger or weaker, ſo it produces a Variety of Effects, differing more or leſs from the *Phænomena*, which would naturally flow from a perfect Fluid. So that tho by the Laws of *Hydroſtaticks*, every Corpuſcle, how ſubtile ſoever, if put into a Fluid which is ſpecifically lighter, muſt neceſſarily ſink to the Bottom; yet we find ſome heavy Bodies, ſuch as Gold, *&c.* when reduced into thin Plates, will be ſuſtained in Spirit of Wine. This Force therefore of Tenacity, which reſiſts the Motion of Bodies in a Fluid, is proportional to the number of Parts which are to be ſeparated, or to the Surface of the Body which we would have move in the Fluid. Hence it is that ſince the Surface of a Body may be enlarged, without altering any thing of its Gravity, the Reſiſtance of a Fluid may be ſo augmented, as to equal the Force of Gravity, which carries the Body downwards. And a Body, tho ſpecifically heavier than a Fluid in which it is immerſed, may be very well ſuſtained in that Fluid, provided it be reduced into very ſmall Particles; becauſe the Gravity of a Body thus reduced into ſmall Particles, decreaſes in a much greater Proportion than the Surface does; or, which is proportional to it, the Tenacity of the Fluid: ſo that at length the Reſiſtance ariſing from its Tenacity, will be equal to the Gravity of Particles, and ſo hinder their Deſcent. And therefore, both in Solution and Digeſtion it is a general Rule, that if the Gravity of a Body is to the Tenacity of the Fluid, as P to 1, and if the Body be then ſubdivided, ſo that the Diameters of the Parts be to that of the Whole as 1 to P, the Reſiſtance which the Particles will meet with in their Deſcent will be equal to their Gravity; for ſince their Weight is $\frac{1}{p^3}$, but their Surface $\frac{1}{p^2}$, the Gravity will be to the Reſiſtance as $p\frac{p}{3}$, to $p\frac{1}{2}$, or as 1 to 1. So that by this we may underſtand how the Corpuſcles of Metals ſwim in *Menſtruums*, which are ſpecifically lighter, as Gold in the Spirit of Nitre, which is drawn off from *Bezoar* Mineral, tho the Gravity of Gold be 15 times greater. And in the ſame manner we may underſtand how Corpuſcles, ſpecifically heavier, are ſuſpended in any other *Menſtruum*. And it is for the ſame Reaſon that ſuch as are lighter cannot riſe up to the Surface: for the Preſſure of Fluids being equal every way, the ſuperior Parts act reciprocally on the inferior; ſo that the ſame Force which keeps the heavy Particles from ſinking, will not permit thoſe which are lighter to aſcend. The Uſe of this in Pharmacy is to extract the Particles which are more volatile, by a certain *Menſtruum*, and to mix them intimately with it. To this end, a gentle Fire is commonly uſed, that the Corpuſcles which are moſt volatile may ſeparate as it were of their own accord: for a fierce Fire forces out the *Fæces* as well as the finer Particles; and if it does not abate the Strength of the Liquor, it will not fail of ſpoiling its Clearneſs.

Digeſtives, are ſuch Unguents, Balſams, or other particular Preparations, as being applied to Wounds, tend to cleanſe, heal them, and promote the Diſcharge of a laudable Matter. See *Ripener* and *Detergent*.

Digeſtor, a ſtrong Veſſel or Engine, contrived by M. *Papin*, wherein to boil, with a very ſtrong Heat, any bony Subſtances, ſo as to reduce them into a fluid State.

Digitus, a Finger. The Fingers and Thumb in each Hand conſiſt of fifteen Bones, there being three to each Finger; they are a little convex and round towards the Back of the Hand, but hollow and plain towards the Palm, except the laſt, where the Nails are. The Order of their Diſpoſitions is called firſt, ſecond, and third *Phalanx*. The firſt is longer than the ſecond, and the ſecond longer than the third. The upper Extremity of the firſt Bone of each Finger has a little *Sinus* which receives the round Head of the Bones of the *Metacarpus*. The upper Extremity of the ſecond and third Bones of each Finger hath two ſmall *Sinus's* parted by a little Protuberance; and the lower Extremity of the firſt and ſecond Bones of each Finger has two Protuberance, divided by a ſmall *Sinus*. The two Protuberances are received into the two *Sinus's* of the upper Extremity of the ſecond and third Bones; and the ſmall *Sinus* receives the little Protuberance of the ſame End of the ſame Bones. The firſt Bone of the Thumb is like to the Bones of the *Metacarpus*, and it is joined to the Wriſt, and ſecond of the Thumb, as they are to the Wriſt and firſt of the Fingers. The ſecond Bone of the Thumb is like the firſt Bones of the Fingers, and it is joined to the firſt and third, as they are to the Bones of the *Metacarpus*,

carpus; and ſecond of the Fingers. The Fingers are moved ſide-ways only upon their firſt Joint. Beſides theſe Bones there are ſome ſmall ones, called *Oſſa Seſamoidæa*, becauſe they reſemble *Seſamum* Grains: they are reckoned about twelve in each Hand; they are placed at the Joints of the Fingers under the Tendons of the *Flexores Digitorum*, to which they ſerve as ſo many Pullies.

Dilatation, is the laying open any Orifice, or the Lips of a Wound wider; or the Extenſion of any Veſſel. And a

Dilatorium, is an Inſtrument with which Surgeons dilate any Part.

Dilute, is to thin a Fluid by the Addition of a thinner thereunto. And ſuch things are called

Diluents, or *Dilutors*; ſuch as common Whey, Ptiſans, and Juleps, which in reſpect of the Blood in a State of Viſcidity are thinner than it, and therefore ſaid to thin it.

Dimenſion, is either Length, Breadth, or Thickneſs; all which when conſidered together, are called the Trine Dimenſion. As a Line has only Length; a Surface, Length and Breadth; and a Body, or Solid, has all three Dimenſions.

Dilatores Naſi, are ſmall thin Muſcles having a double Order of Fibres decuſſating each other, ariſing from the *Os Maxillare*, and inſerted into the ſides of the *Alæ*; they dilate the Noſtrils.

Dinos, the ſame with *Vertigo*, an apparent turning round of the Objects of Sight, together with a Failure of the Limbs, proceeding from the ſame Cauſes as the Apoplexy, tho in a leſs Degree.

Dioptricks, concern the different Refractions of Light paſſing thro' different Mediums, as the Air, Water, Glaſſes, *&c.*

Diploe, expreſſes the two Plates of the *Cranium*, which ſee; *Rolſinkius* alſo applies it to the *Uterus*, which he ſays conſiſts of two Membranes in like manner jointed, and diviſible.

Diradiation, or *Irradiation*, ſtrictly ſignifies to dart out Light; and is applied by ſome Anatomiſts to the ſudden Invigoration of the Muſcles by the animal Spirits.

Direction, is the Line of Motion that any Body obſerves according to the Force impreſſed upon it; and is often called the Line of Direction.

Diſcous, or *Diſcoidal*, is a Term uſed by Botaniſts to denote the middle, plain, and flat Part of ſome Flowers, ſuch as the *Flos Solis*, &c. becauſe it is in Figure like the antient *Diſcus*, which was a round Quoit uſed by the *Romans* in their Exerciſes.

Diſcutient, applied to Medicines, ſignifies ſuch as have a Power to repel or drive back the Matter of Tumours into the Blood, with permitting it to ſeparate. It alſo ſometimes means the ſame as *Carminative*; which ſee.

Diſeaſe, is an irregular Circulation of the animal Fluids. See *Morbus*.

Diſlocation, is a Bone put out of Joint; the ſame as *Luxation*.

Diſpenſation, is the Weighing and Meaſuring out the proper Quantities of Ingredients for a compound Medicine; and

Diſpenſatory, is a Book of Rules directing ſuch Quantities.

Diſſection, cutting aſunder, the ſame as *Anatomy*.

Diſſimilar, conſiſting of Parts unlike in Figure, or other Properties.

Diſſolution, is a Term very laxly uſed in Pharmacy to ſignify the diſſolving, or making thinner any Subſtances; but as it concerns the reducing of ſolid Bodies into a ſtate of Fluidity by the Help of ſome Liquor, it will beſt be explained by the Solution of Salts, which is the moſt ſimple Operation that falls under this Head. And this Motion may very well be accounted for by that attractive Force which is ſo very extenſive in natural Philoſophy, that there is no kind of Matter, but what is under its Influence. It may be obſerved, that the Corpuſcles of Salts, which are the moſt ſimple of any, are withal very minute, and for their Bulk very ſolid; and therefore exert a very ſtrong attractive Force, which, *cæteris paribus*, is proportional to the Quantity of Matter. Hence it comes to paſs, that the Particles of Water are more ſtrongly attracted by the ſaline Particles, than they are by one another: The Particles of Water therefore cohering but looſly, and being eaſily movable, approach the Corpuſcles of Salts, and run as it were into their Embraces; and the Motion of them is quicker or ſlower, according to their leſs or greater Diſtances; the attractive Force in all Bodies being ſtrongeſt at the Point of Contact. Therefore if Salt be thrown into the middle of a Diſh full of Water, we ſhall find the aqueous Particles, which are in the middle of the Diſh, ſharp and pungent to the Taſte; but the Water upon the ſides of the Veſſel almoſt inſipid. So that when ſuch a Motion once ariſes, the aqueous Particles are carried with ſome Force towards the Salts; and the Moment of them is to be eſtimated from the *Ratio* of their Weight and Celerity conjunctly. By the Force of this Impulſe they open to themſelves a Paſſage into the Pores of the Salts, which are very numerous; and at length they break and divide their Texture, that all Coheſion of their Parts is deſtroy'd: hereupon being ſeparated, and removed to a convenient Diſtance from one another, they are diſperſed, and float here and there about the Water. See *Fuſion*, *Solution*, and *Prop.* 14. under *Particles.*

Diſtenſion, is when Parts are ſtretched beyond their natural Size.

Diſtillation. See *Deſtillation.*

Diſtraction, from *de* from, and *traho* to draw, is pulling a Fibre or Membrane beyond its natural extent; and what is capable of this Enlargement, is ſaid to be Diſtractile. See *Fibre.*

Divinum, is uſed variouſly by phyſical Writers, and ſometimes by the ſame Perſon; and *Hippocrates* himſelf does not always keep to it the ſame Senſe; but the Chymiſts and Medicine-Makers have moſt deviated from the proper Meaning of the Word, by applying it very conceitedly to ſeveral things, of whoſe Virtues they had extravagant Opinions, as it is by *Fernelius* to a Water, by *Scultetus* to a Cerate, and by others to a Plaiſter, lately expunged the *London-Diſpenſatory.*

Diureſis, from διὰ, *per*, thro', and ῥέω, *fluo*, to flow; is uſed to expreſs that Separation which is made of the Urine by the Kidneys: and what moſt promotes ſuch a Separation, is called

Diuretick, ſuch Medicines as work by Urine.

Diverge: Thoſe Rays are ſaid ſo to do, which going from a Point of the viſible Object, are diſperſed, and continually depart from one another, according as they are removed from the Object. The Fibres or Threads alſo which from a Point ſpread themſelves upon any Muſcle or Membrane, are frequently ſignify'd by the ſame Term.

Diviſibility, is that Property of a Body whereby it is conceived to have Parts, and into which it may actually or mentally be divided. All Quantity is infinitely diviſible; yet this cannot be actually effected, becauſe when any Quantity is divided into any Number of Parts, every one of thoſe Parts is further diviſible into as many more Parts, and ſo on: ſo that there can be no ſuch thing as a determinate Number of Parts in any continued Quantity.

Dogmatica Medicina, is underſtood of that State of Medicine which adds Reaſon to Experience; from *δοκέω*, *cenſeo*, to judge: and the divine *Hippocrates* was the firſt of this Diſtinction, called

Dogmatici, Phyſicians who reaſoned upon Experience, in oppoſition to thoſe Sects who were called Methodiſts and Empiricks, and conducted their Practice only by Obſervation and Example, without examining into the Reaſons for ſuch particular Proceedings.

Dorſum, is the hinder-part of the *Thorax*, tho as tranſlated *Back*, it includes the Loins alſo; and *Dorſum Manûs*, and *Pedis*, is the outſide of the Hand and Foot: hence

Dorſale is applied to Diſtempers, whoſe Seat is ſuppoſed in the Back, as the *Tabes Dorſalis*; and to external Remedies, as *Emplaſtrum Dorſale*, and the like.

Doſe, is ſo much of any Medicine as is taken at one time.

Drachm, in Medicine, is the eighth part of an Ounce, and contains three Scruples or ſixty Grains.

Draco, is known well enough in its common Signification; but the Chymiſts have grievouſly tortured it to a great many Purpoſes, tho moſt of them very unintelligible, eſpecially thoſe of *Baſil Valentine*, in that moſt incomprehenſible Book called his *Laſt Will and Teſtament*. *Quercetan* applies it both to ſome Preparations of Quickſilver and Antimony; and the *Draco Mitigatus* hath long obtained as a Name for the *Mercurius Dulcis*: But theſe Whimſies are now almoſt in contempt.

Draſtick, from *δραστικος*, *activus*, brisk; is a Medicine that works with ſpeed, as *Jalap*, *Scammony*, and the ſtronger Purges.

Drawers. See *Ripeners*.

Dropax, is an external ſtimulating form of Medicine, applied in the manner of a Plaiſter, to cauſe a Redneſs, Heat, and Tumour in the Part that is grown ſenſeleſs or benumbed. Pitch, Galbanum, Pellitory, Sal-armoniac, &c. are generally uſed for this Purpoſe.

Dropſy. See *Hydrops*.

Ductus, by Anatomiſts, expreſſes any Canal, Pipe, or Conveyance; hence

Ductus Adipoſi, are a Net of ſmall Veſſels, which *Malpighi* ſuppoſes to bring the Fat into the Cells which preſerve it; but their Riſe cannot yet be diſcovered, and their Appearance is uncertain.

Ductus Biliarius. See *Jecur*.

Ductus Chyliferus. See *Ductus Thoracicus*.

Ductus Communis Choledocus. See *Jecur*.

Ductus Cyſticus. See *Cyſticus Ductus*.

Ductus Hepaticus. See *Jecur*.

Ductus Lachrymales, are the excretory Ducts of the *Glandulæ Lachrymales*; which ſee.

Ductus Pancreaticus. See *Pancreas*.

Ductus Salivales, are the Pipes which ſpew out the *Saliva* from ſeveral Glands into the Mouth; which ſee under their reſpective Names.

Ductus Thoracicus. See *Lacteal Veins.*

Ductus Urinarius, the ſame with *Urethra* ; which ſee.

Duodenum. This is the firſt Diviſion of the Inteſtines, and about twelve Fingers breadth long ; it is continued to the *Pylorus,* from which turning downwards, it runs under the Stomach immediately above the *Vertebræ,* towards the left ſide, and ends at the firſt of the Windings under the *Colon.* At its lower-end there are two Canals, which open in its Cavity ; one comes from the Liver and Gall-bladder, called the *Ductus communis Choledocus* ; and the other from the *Pancreas,* called *Pancreaticus.* Its Paſſage is ſtraiter, and its Coats thicker than any of the three upper Diviſions of the Inteſtines.

Duplicature, is the Doubling of any Membranes, when they go off to ſome diſtance, and return again.

Dura Mater, is a ſtrong and thick Membrane which covers all the Cavity of the *Cranium* ; it contains the whole Brain ſomewhat looſely, that the Veſſels which run between its Duplicature, and upon the Surface of the Brain, be not too much preſſed by the Skull. It ſticks very cloſe to the Baſis of the Skull, and to its Sutures, by the Fibres and Veſſels it ſends to the *Pericranium* ; it is faſtened to the *Pia Mater* and the Brain, by the Veſſels which paſs from one to the other. It gives a Coat or Covering to all the Nerves which riſe from the Brain to the *Medulla Spinalis,* and to all the Nerves which riſe from it. Its Surface is rough towards the Skull, and ſmooth towards the Brain. It is a double Membrane woven of ſtrong Fibres, which may be plainly ſeen on its inſide, but very little on its outſide next the Skull. It has three Proceſſes made by the doubling of its inner Membrane. The firſt riſes from a narrow beginning from the *Criſta Galli,* to which it is faſtened ; and as it approaches the hind-part of the Head, it grows broader and broader, till it terminates where the longitudinal *Sinus* ends. It divides the *Cerebrum* into two Hemiſpheres, near as deep as the *Corpus Calloſum.* It reſembles a Sickle, and therefore is called *Falx.* The ſecond ſeparates the *Cerebrum* from the *Cerebellum* down to the *Medulla Oblongata,* that the Weight of the *Cerebrum* may not offend the *Cerebellum* which lies under it. This Proceſs is very ſtrong and thick, and in ravenous Beaſts it is for the moſt part bony, becauſe of the violent Motion of their Brain. The third is the ſmalleſt ; it ſeparates the external Subſtance of the hinder-part of the *Cerebellum* into two Protuberances. In this Membrane there are ſeveral *Sinus's* or Channels, which run between its internal and external Membrane : of theſe there are four principal ones, which are commonly deſcribed ; the firſt is the *Sinus longitudinalis,* which riſes from the blind Hole in the upper-part of the *Criſta Galli* ; it runs along the upper-part of the *Falx,* and ends with it, and lies exactly under the *Sutura Sagittalis.* Into this *Sinus* the Veins of the Brain, and ſome of the proper Veins of the *Dura Mater,* bring back the Blood which they receive from the Arteries. Of theſe Veins ſome running obliquely from the fore-part of the Brain backwards, and others contrary from the hind-part forwards, keep a little Space between the Duplicature of the Membrane, as the *Ureters* do upon the Bladder, and ſo ſo they open in the *Sinus*. In this there are ſeveral ſmall Cells and round Ligaments, which go from one ſide of the Cavity to the other. Theſe by their Elaſticity, further the Motion of the Blood. The ſecond and third *Sinus's* which this pours into, are the lateral; they ariſe from the end of the firſt, into which they open, and going down upon the ſides of the *Occipital* Bone, in a crooked way, they paſs thro' the ſame Hole with the eighth Pair of Nerves, and diſcharge themſelves into the internal *Jugulars*. Into theſe *Sinus's* ſome Veins, and the other *Sinus's* diſcharge themſelves. The fourth *Sinus* runs by the broad Extremity of the *Falx*, and opens where the lateral *Sinus's* join the *Longitudinal*. This meeting of the four *Sinus's* is called *Torcular*. It receives the Blood at its other Extremity from the *Plexus Choroides*. Beſides theſe, there are more of inferior Note mention'd by ſome curious Anatomiſts, as *Du Verney*, Dr. *Ridley*, &c. which ſee. Their Uſe is to receive the Blood of the adjacent Parts from the Veins, to which they are as ſo many Trunks which diſcharge the Blood into the internal *Jugulars*. The Veſſels of the *Dura Mater*, are firſt a Branch from the *Carotidal*, whilſt it is in its long Canal, which is diſperſed in the fore and lower Part of the *Dura Mater*; ſecondly, an Artery which enters the Hole of the Skull, called *Foramen Arteriæ Duræ Matris*: It is diſperſed on the ſides of this Membrane, and runs as high as the *Sinus longitudinalis*. The Vein which accompanies the Branches of this Artery, goes out of the Skull by the *Foramen Lacerum*. Thirdly, a Branch of the vertebral Artery and Vein, which laſt paſſes thro' the Hole behind the *occipital Apophyſis*, where they are diſperſed in the hind-part of the *Dura Mater*. The Blood which is brought by the Arteries is carried back by the Veins, which go out at the ſame Holes by which the Arteries enter: But in caſe the Swelling of the Arteries by a preternatural Turgeſcence of the Blood ſhould compreſs the Veins as they go out of the Skull, which might eaſily happen, ſeeing it has more Arteries than Veins; therefore there are ſeveral other Veins which inoſculate with the Arteries, and which carry the Blood from them into two ſmall Veins, which are on the ſides of the longitudinal *Sinus's*: 'tis theſe Veins which open into this *Sinus*, that the Blood which was ſtopt in the other way, may have a free Circulation in this. It hath alſo Nerves from the Branches of the fifth Pair, which give it an exquiſite Senſe. It has a Motion of *Syſtole* and *Diaſtole*, which is cauſed by the Arteries which enter the Skull. No doubt the great Number of Arteries in the Brain contribute more to it, than thoſe few proper to it ſelf, which may aſſiſt a little, tho not very ſenſibly, becauſe of their Smallneſs and Paucity. The Uſe of the *Dura Mater* is to cover the Brain, the ſpinal Marrow, and all the Nerves, to divide the *Cerebrum* in two, and to hinder it from preſſing the *Cerebellum*.

Duſtocia, ſignifies a difficult Birth.

Dyota, is a circulatory Veſſel, the lower Part whereof is faſhion'd like a Cucurbit, and whereto an Alembick is adapted.

Dyſcraſy, from δὺς, *malè*, bad, and *κρᾶσις* or *κρασία*, *Temperamentum*, a Conſtitution; is an ill Habit of Body, as a *Jaundice*, or the like.

Dyſelchia, ſignifies Ulcers of difficult cure, as they are particularly in dropſical or moiſt Conſtitutions, where a conſtant Drain of Humours is hard to be prevented.

Dyſentery, from δὺς, *malè*, bad, ἔντερον, *Inteſtinum*, a Bowel, and ῥέω, *fluo*, to run; is a Looſeneſs wherein very ill Humours flow off by Stool, and are alſo ſometimes attended with Blood. The Cure is in Aſtringents, Balſamicks, and healing Broths.

Dyſpepſy, from δὺς, *malè*, bad, and πέπτω, *coquo*, to concoct; is a bad Digeſtion, and is generally confined to the Office of the Stomach. Bitters and Subaſtringents are its Remedy.

Dyſpnœa, from δὺς, *difficulter*, hardly; and πνέω, *ſpiro*, to breathe; is a difficulty of breathing, as in an *Aſthma*; which may proceed from various Cauſes, and therefore the Means of Cure are to be contrived accordingly.

Dyſuria, from δὺς, *malè*, and οὖρον, *Urina*, Urine, and ῥέω, *fluo*, to flow; is a difficulty in making Urine, from divers Cauſes, and therefore accordingly to be cured. The ſame Particle δὺς, is alſo applied to many other things, only to expreſs their being in an ill State.

E.

EAR is divided into the external and internal. The external is alſo divided into two Parts, of which the upper is called *Pinna*, or the Wing, the lower *Fibra*, or Lobe. The Parts of the *Pinna*, are the *Helix*, which is the outer Circle or Border of the Ear; the *Antihelix*, which is the Semicircle within the other: The lower End of the Semicircle makes a little Prominence, which is called *Antitragus*; becauſe there is another Prominence, juſt oppoſite to it, which is called *Tragus*, by reaſon of ſome Hair that is upon it. The Cavity made by the Extremity of the *Helix* is called *Concha*: The Hollow in the middle of the Ear is called *Alvearium*, and has a Hole which leads to the *Tympanum*, named *Meatus Auditorius*. This external Part is compoſed of the Skin, a Cartilage, and a little Fat. The Skin is thin and ſmooth; its Glands ſeem to differ from the common *milliary* Glands of the Skin, in that both in Young and Old they frequently flow with an unctious Humour, which dries to a ſort of Scurf in the *Concha*. Theſe are called *Glandulæ Sebaceæ*. The Skin ſticks cloſe to the Cartilage by means of the *Membrana Adipoſa*, whoſe Cells contain no Fat but in the Lobe of the Ear, where the Cartilage does not reach. The Veſſels of the external Ear are Arteries from the *Carotide* Veins, which go to the *Jugulares*, and Nerves from the *Portio Dura*, and ſecond Pair of the Neck. It is tied to the back of the *Os Petroſum* by a ſtrong Ligament which comes from the backſide of the *Pinna*. Tho it has but a very obſcure Motion, yet it has two Muſcles; the firſt ariſes from the outſide of the frontal Muſcle, where it joins the *Crotaphite*, and is inſerted into the upper back-part of the *Pinna*: The ſecond ariſes from the upper and foremoſt Part of the *Proceſſus Mammillaris,* and is inſerted into the middle and back-part of the *Concha.* The firſt ſhould draw the Ear upwards, and the ſecond downwards and backwards, but the continual binding of the Ears when young, deprives us of their Uſe. The Uſe of the external Ear is like a Tunnel to gather the Sounds, which by its Ridges and Hollows are directed to the *Meatus Auditorius,* the firſt part of the internal Ear. This is a Conduit which goes from the middle of the *Concha* to the *Tympanum*; it is near an Inch long, about three or four Lines, or twelfth Parts of an Inch, wide; and its Paſſage is not ſtrait but crooked, paſſing firſt upwards and then downwards, when it has a ſmall Tendency upwards again, and the lower part of its Extremity bends a little down to the obliquity of the *Membrana Tympani.* The beginning of this Paſſage is cartilaginous, being a Continuation of the *Concha* contracted; the End of it is bony, which makes the greateſt part of the upper and back-part of the *Meatus,* as the Cartilage does of the lower and fore-part. The whole Cavity within is lined with a Membrane, which ſeems to be a Continuation of the Skin which covers the *Auricula,* and which grows thinner and thinner as it approaches the *Tympanum.* On the back-ſide of this Membrane there is a great number of little Glands, whoſe excretory Ducts bring into the *Meatus* a yellow Excrement, whoſe Bitterneſs and Viſcidity hinders Inſects from approaching the *Membrana Tympani,* which it likewiſe preſerves againſt the Injuries of Air. The Cartilage is always ſlit, and frequently in more than one place. The *Meatus* has the ſame Veſſels which the external Ear has, and both have a Vein which paſſes thro' the eleventh of the external Holes of the Skull, and diſcharges it ſelf into the lateral *Sinus's.* The inner Extremity of the *Meatus* is cloſed with a thin tranſparent Membrane, of an oval Figure, ſtretched out like the Head of a Drum, making an obtuſe Angle with the upper and back-part of the *Meatus,* and an acute with the lower and fore-part. This is the *Membrana Tympani,* which is ſet in a bony Circle of the temporal Bone, and which wants about half a Line of being a compleat Circle. The Handle of a ſmall Bone, called the *Malleolus,* is tied to this Membrane, which it draws ſomewhat inwards, making it a little concave towards the *Meatus Auditorius:* and there runs a ſmall Twig of a Nerve from the fifth Pair upon its inſide, called *Chorda Tympani.* The upper Edge of this Membrane being ſometimes not quite cloſed to the Bone, gives a Paſſage for the Air from the Mouth to the external Ear. Behind this Membrane there is a pretty large Cavity called the *Tympanum,* it is about three or four Lines deep, as much wide, and between two and three high: It is lined with a fine Membrane, on which there are ſeveral Veins and Arteries. It is always full of a purulent Matter in Children. In this Cavity there are four ſmall Bones, of which the firſt is the *Malleolus,* or Hammer, ſo called becauſe of its Shape. Its Head has on its lower ſide two Protuberances, and a Cavity whereby it is joined to the *Incus* by *Ginglymus:* Its Handle, which is pretty long and ſmall, is faſtened to the *Membrana Tympani:* Its whole Length is about three Lines, or a little more. Near its Head it has two ſmall Proceſſes, and it is moved by three Muſcles: the firſt is called the *Externus*; it riſes from the upper and external ſide of the *Meatus Auditorius*, and is inſerted into the upper and lower Proceſs of the *Malleolus*, which it draws outwards. This is neceſſary when Sounds are too great, becauſe they might break the *Membrana Tympani*. The ſecond is the *Obliquus*; it lies in the external Part of the Conduit which goes to the Palate, and entring the Barrel, it is contained in a Sinuoſity of the Bone by the upper Edge of the *Membrana Tympani*, and is inſerted into the ſlender Proceſs of the Hammer, aſſiſting the former Muſcle in its Action. The third is the *Internus*, which ariſes from the Extremity of the bony Part of the Conduit which leads to the *Fauces*, and lies in a *Sinus* of the *Os Petroſum*, till it paſſes over a little riſing of the Bone at the *Feneſtra Ovalis*, to be inſerted into the poſterior Part of the Handle of the *Malleolus*. This Muſcle by pulling the Hammer inwards, diſtends the *Membrana Tympani*. The ſecond ſmall Bone is called the *Incus*, the Anvil; it has a Head and two Legs: Its Head, which is near two Lines long, above one broad, and but half a Line thick, has a Protuberance and two Cavities, whereby it is articulated with the Hammer; the ſhorter of its Legs is tied to that ſide of the Conduit which goes to the *Proceſſus Mammillaris*, and its longer Leg to the Head of the third Bone, called the *Stapes*, or Stirrup, becauſe of its reſemblance: 'Tis of a triangular Figure made of two Branches ſet upon a flat Baſis, which ſtands upon the *Foramen Ovale*. The Space between the two Branches is filled up by a fine tranſparent Membrane; the Union of the two Branches is called the Head of the Stirrup, in which there is a ſmall Cavity, wherein lies the fourth Bone. The Height of the *Stapes* is a Line and an half, the Length of it above a Line, and the Breadth half a Line. There is a ſmall Muſcle which ariſes out of a ſmall Canal in the bottom of the *Tympanum*, and which is inſerted into the Head of the Stirrup. The *Os Orbiculare*, which is a very ſmall Bone, being convex on that ſide which is received in the Cavity of the Head of the Stirrup, and hollow on the other ſide, where it receives the long Leg of the Anvil, which is only joined to the Stirrup by means of this fourth Bone. Beſides theſe Bones, there are ſeveral Holes in the *Tympanum*; the firſt is in its fore-part near the *Membrana Tympani*: It is the Entry to the *Sinus* in the *Mammillary* Proceſs. The ſecond is the Orifice of a Conduit which leads to the Palate of the Mouth: The beginning of this Paſſage is very narrow and bony; the middle is cartilaginous; and its Extremity, which opens near the *Uvula*, is above four Lines wide, membranous, and dilated by ſome muſcular Fibres; and they open the Extremity of this Paſſage either when we open our Mouths to hear more diſtinctly; or when it is neceſſary there ſhould be a free Communication between the external Air, and that in the Cavity of the *Tympanum*. The third and fourth are in the internal Proceſs of the *Os Petroſum*; the one is called *Feneſtra Ovalis*; the Baſis of the Stirrup ſtands upon it, and it's in the Entry to the *Veſtibulum*: The other is called *Feneſtra Rotunda*, is covered by a fine Membrane, incloſed in a Rift of this Hole; and it leads to the *Cochlea*. The *Veſtibulum* is a Cavity in the *Os Petroſum*, behind the *Feneſtra Ovalis*; it is above two Lines broad, as much long, and a Line and a half high. In it open the Semicircular Pipes of the Labyrinth, the upper Turning of the *Cochlea*, and the Auditory Nerve, at five ſmall Holes. The Labyrinth is made of three Semicircular Pipes, above half a Line wide, excavated in the *Os Petroſum*; they open by five Orifices into the *Veſtibulum*. That which is called the ſuperior Pipe, and is generally about five or ſix Lines long, joins one of its Extremities with one of the Extremities of that which is called the ſuperior Pipe; and theſe two Extremities open by one Orifice, but the middle Pipe opens at each end by it ſelf into the *Veſtibulum*. The laſt Cavity of the Ear is the *Cochlea*; it reſembles a Snail's Shell: Its Canal, which winds in a ſpiral Line, is divided into two, the upper and lower, by a thin *Lamina Spiralis*, of which the part next the Axis is bony, but extremely brittle; and that next the outer Shell is membranous, appearing to be only made of the Auditory Nerve. The upper Canal opens into the *Tympanum*, and the lower into the *Veſtibulum*: This is narrower than that, eſpecially towards the Baſis of the *Cochlea*, where each is about a Line wide, and the Baſis it ſelf is about four Lines Diameter. The Veſſels of the internal Ear are Arteries and Veins, from the internal *Carotidale* and *Jugulars*. The *Nervus Auditorius* enters by the Hole in the internal Proceſs of the *Os Petroſum*. It conſiſts of two Bundles, of which one is hard, the other ſoft. Five Branches of the *Portio Mollis* enter the *Veſtibulum*, and form a delicate Web which ſends Slips that run thro' the ſemicircular Canals; and the reſt of the *Portio Mollis* enters the *Cochlea* at the Center of its Baſe, and turns with the ſpiral Line, of which it probably makes the membranous Part. The *Portio Dura* paſſes thro' its proper Paſſage, to be diſtributed among the external Parts about the Ear.

Earth, is one of the chymical Principles, and that part of Bodies which moſt anſwers to what they call *Caput Mortuum*, that is laſt left in the Furnace, and is neither capable of being raiſed by Diſtillation, nor diſſolved by Solution.

Ebullition, is ſtrictly any boiling up, like that of Water over the Fire, but is generally uſed to ſignify that Struggling or Effervefcence which ariſes from the mingling together of any alkalizate and acid Liquor: and hence any inteſtine violent Motion of the Parts of a Fluid, occaſioned by the ſtruggling of Particles of different Properties, is called by this Name.

Ecchymoſis, from ἐκχύω, *effundo*, to pour out, and αἷμα, *Sanguis*, Blood; ſignifies thoſe livid Spots or Blotches in the Skin which are made by extravaſated Blood; the ſame as *Ecchymoma*.

Eccoprotics, are ſuch Medicines as gently purge the Belly; ſo as to bring away no more than the natural Excrements lodged in the Inteſtines, as is ſignified by the Word.

Echinus, amongſt Botaniſts is the prickly Head or Top of any Plant, ſo called from its likeneſs to a Hedge-Hog.

Eclegma, from ἐκλείχω, *lingo*, to lick; is a Form of Medicine made by the Incorporation of Oils with Syrups, and which is to be taken upon a Liquorice Stick: the ſame alſo as *Lambative*, from *Lambo*, which ſignifies the ſame; and *Linctus*.

Ecphractick, from ἐκφράσσω, *deobſtruo*, to open; are ſuch Medicines as incide and render more thin tough Humours, ſo as to promote their Diſcharge.

Edulcoration, ſignifies the ſame as *Ablution*, which ſee; and alſo to ſweeten any thing with Sugar or Syrups.

Effervescence, expreſſes a greater Degree of Motion or Struggling of the ſmall Parts of a Liquor, than is commonly underſtood by Fermentation or Ebullition: and ſuch as occaſions great Heat.

Efflorescence, ſignifying to flower out, expreſſes the breaking out of ſome Humours in the Skin, as in the Meaſles, and the like.

Effluvia, from *effluo*, to flow out, are thoſe ſmall Particles which are continually flying off from Bodies; the ſubtilty and fineneſs of which appears from their being able a long time together, to produce very ſenſible Effects, without any ſenſible Diminution of the Body from whence they ariſe: And the conſiderable Effects they may have upon other Bodies within the Sphere of their Activity, may be learned from the Writings of Mr. *Boyle*, and others on that Subject.

Egg of Glaſs, a Veſſel in Chymiſtry whoſe hollow Body or Bottom part its Oval, or faſhion'd like an Egg; but riſes up in a ſlender Stem.

Ejaculatory Veſſels; ſee Generation, Parts of, proper to Men.

Ejection, ſignifying to throw out; is the Diſcharge of any thing by Vomit, Stool, or any other Emunctory.

Elæoſaccharum, from ἔλαιον, *Oleum*, and *Saccharum*, Sugar; denotes the Mixture of Oil and Sugar together, which is frequently done with the diſtill'd Oils, to make them mix with aqueous Fluids for preſent uſe. 'Tis an admirable Form of Medicine, and highly deſerves to be better eſteemed, and more frequently uſed than we find it. All the Virtues of Vegetables are with great Advantage reducible into it. 'Tis very ready and commodious for taking, and capable of continuing for a long time unalter'd, and of being tranſported to diſtant Regions without any Diminution of its Virtue.

Elaſtick, ſignifies a Force in Bodies by which they endeavour to reſtore themſelves to the Poſture from whence they were diſplaced by any external Force. To ſolve this Property, many have recourſe to the univerſal Law of Nature, Attraction, by which the Parts of ſolid and firm Bodies are cauſed to cohere together; whereby when hard Bodies are ſtruck or bent, ſo that the component Parts are a little moved from one another, but not quite disjoined or broken off, nor ſeparated ſo far as to be out of the Power of that attracting Force, by which they cohere together; they certainly muſt on the ceſſation of the external Violence, ſpring back with a very great Velocity to their former natural State: but in this Circumſtance the atmoſpherical Preſſure will account for it as well, becauſe ſuch a Violence, if it be not great enough to ſeparate the conſtituent Particles of a Body far enough to let in any foreign Matter, muſt occaſion many *Vacuola* between the ſeparated Surfaces, ſo that upon the removal they will cloſe again by the Preſſure of the aerial Fluid upon the external Parts, *i. e.* the Body will come again into its natural Poſture. The included Air likewiſe in moſt Bodies, gives that Power of Reſilition upon their Percuſſion;

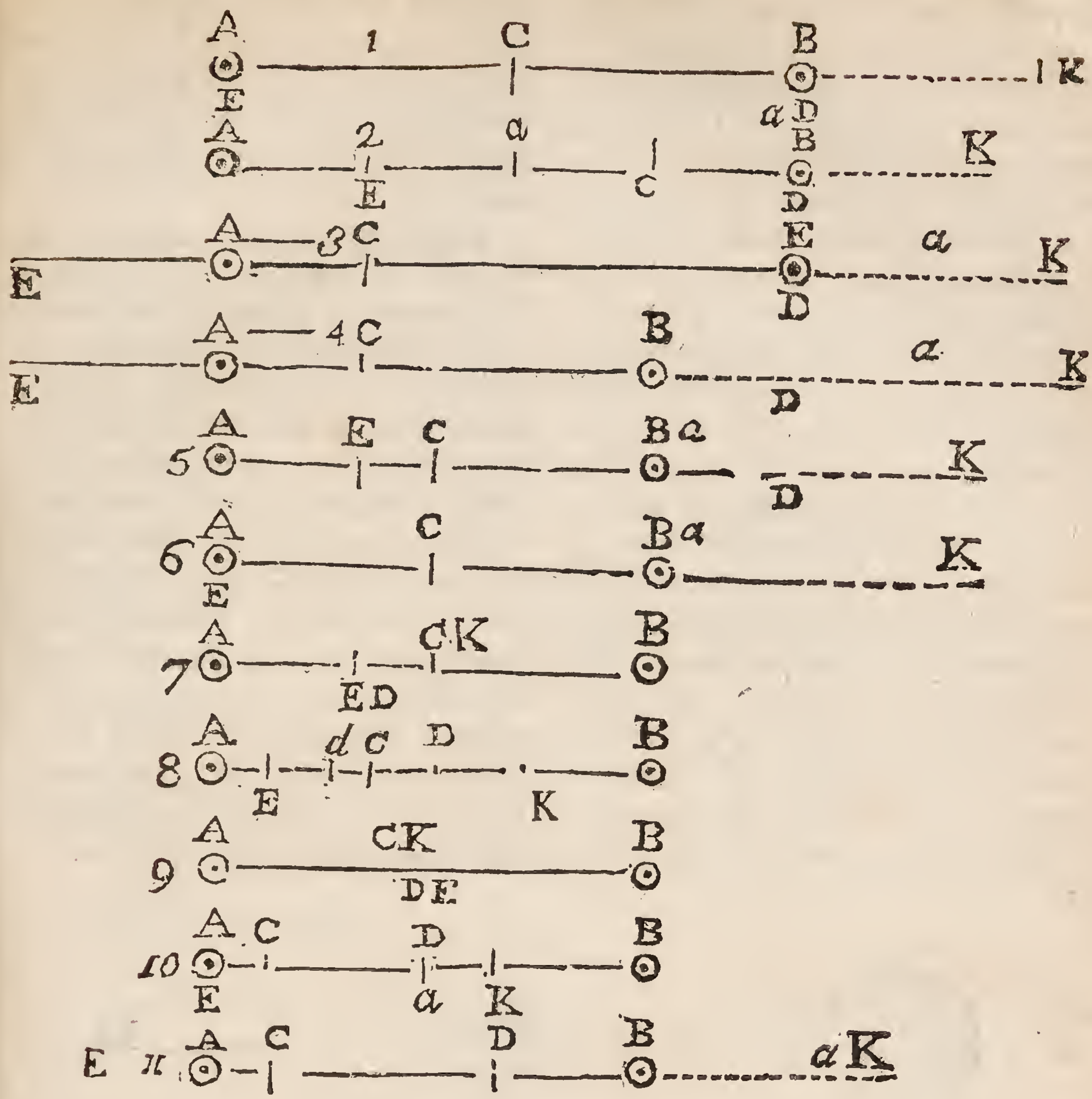
and becauſe a tolerable Underſtanding of this Affair is of great Importance in phyſical Reaſoning, and helpful to the Knowledge of many modern Writings, it may be worth giving an Abſtract hereof from the beſt Authors upon the Subject.

If two Bodies perfectly Elaſtick ſtrike one againſt another, there will be or remain in each the ſame relative Velocity as before, *i. e.* they will recede with the ſame Velocity as they met together with. For the compreſſive Force, or the magnitude of the Stroke in any given Bodies, ariſes from the relative Velocity of thoſe Bodies, and is proportional to it: And Bodies perfectly Elaſtick, will reſtore themſelves compleatly to the Figure they had before the Shock; or in other words, the reſtitutive Force is equal to the compreſſive, and therefore muſt be equal to the Force with which they came together, and conſequently they muſt by Elaſticity recede again from each other with the ſame Velocity. Hence, taking equal Times before and after the Shock, the Diſtances between the Bodies will be equal: And therefore the Diſtances of Times from the common Center of Gravity will, in the ſame Times, be equal And hence the Laws of Percuſſion of Bodies perfectly Elaſtical are eaſily deduced.

Let there be two Bodies *A* and *B*, perfectly Elaſtical, whoſe common Center of Gravity let be *C*, and let *D* be the Point of Concourſe where the Bodies meet; make *C E* always equal to *C D*. Then after the Concourſe or Shock, the right Line *C E* will expreſs the Velocity of the Body *A*, from *E* towards *A*; and the right Line *B B* will expreſs the Velocity of the Body *B*, from *E* towards *B*.

Since the common Center of Gravity of any Bodies proceeds on with the ſame uniform Progreſſion, and with the ſame Velocity both before and after the Shock and Impulſe; and that in a Time equal to that in which the Body *A* moves the length *A D*, or the Center of Gravity *C* moves the length *C D*; and after the Concourſe, the ſame Point *C* will move the length *D K* = *D C*: This being ſo, let *K a* be taken equal to *C A*; then taking equal Times both before and after the Impulſe, the Diſtances of the Bodies from the common Center of Gravity will always be equal; then in what time the common Center of Gravity will be in *K*, the Body *A* will be found to be in *a*; and therefore after the Impulſe, its Motion will be from *D* towards *a*, and its Velocity will be expreſſed by *D a*, which is the Length run over in that Time. But becauſe *C E* = *C D*, or to *K C*, and *C a* = *K a*, the difference between the right Lines *C E* and *C A*, will be equal to the difference between the right Lines *K D* and *K a*, that is, *E A* = *D a*: But the right Line *D a* expreſſes the Velocity of the *Body A* after the Shock or Impulſe, and conſequently its Velocity will alſo be expreſſed by the right Line *E A*. Beſides, ſince the relative Velocity of theſe Bodies remains the ſame both before and after the Shock, and that the right Line *E A* denotes the Velocity of the Body *A*, the Velocity of the Body *B* muſt neceſſarily, after the Impulſe, be denoted by the Line *E B*, and the Direction of the Motion will be from *E* to *B*.

1. Hence, if the Body *B* be at reſt, the Points *D* and *B* will be co-incident; and becauſe *B* : *A* : : *A B* : *C B*, therefore by Compoſition *B* + *A* : *A A* : : *A B* : *C B*; and



and doubling the conſequent Terms of the Propoſition, $B + A : 2A :: AB : 2CB$, that is in words, *As the Aggregate or Sum of the Bodies : is to the Double of the moving or ſtriking Bodies :: So will the Velocity of the ſtriking Body be before the Shock : to the Velocity of the quieſcent Body after it.*

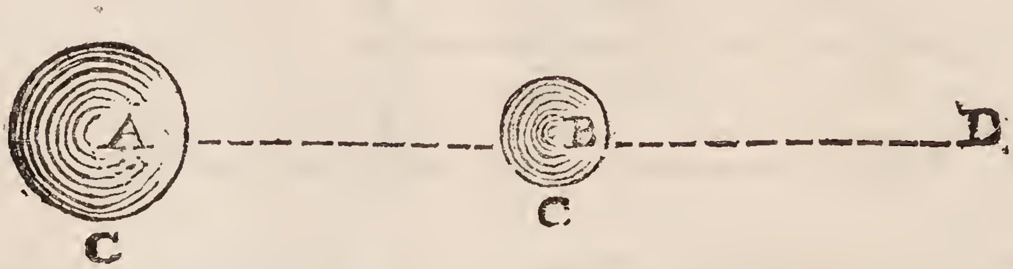
2. Wherefore if the Bodies *A* and *B* are equal, the Sum or Aggregate of them muſt be 2 *A*: whence the Velocity of the Body *B*, after the Shock, ſhall be equal to *AB*, the Velocity of the Body *A* before it; and conſequently the Points *E* and *A* being co-incident, *AE*, the Velocity of the moving Body after the Shock, will be $= 0$; that is, none at all. Which alſo may be eaſily ſhewn thus; becauſe the Bodies *A* and *B* are equal, $AC = CB = CD = CE$; wherefore the Point *E* will co-incide with *A*, and conſequently the Body *A*, after the Shock, will be at reſt, and the Body *B* will move with the ſame Velocity *EB*, or *AB*. *If therefore a perfectly Elaſtick Body ſtrike directly againſt another equal to it, and which is at reſt; after the Shock the moving Body will loſe all its Motion, and the Quieſcent move on with the Velocity of the former.*

3. If the Bodies *A* and *B* are equal, and both move the ſame way, as in

Line the 4th, they will move alſo both the ſame way after the Shock, and with the mutual Exchange of their Velocities. For ſince $CE = CD$, and $AC = CB$; $CE - AC$, that is, EA muſt be equal to $CD - CB$, or to BD; and conſequently the Velocity of the Body after the Shock, will be equal to that of B before it. Beſides, ſince $EA = BD$, EB will be $= AD$; and therefore the Velocity of the Body B after the Shock, muſt be equal to that of A before it.

4. If the equal Bodies B and A move with contrary Directions, as in Line the 10th of the Figure, they will alſo, after the Concourſe, move contrary ways, and with their Velocities counterchanged. For ſince $AC = CB$; and $CE = CD$, $AC - CE$; that is, AE muſt be equal to $CB - CD$, or to BD; and therefore the Velocity of the Body A, after the Shock, will be equal to that of B before it. Beſides, ſince $EA = BD$, AD will be $= EB$: but AD expreſſes the Velocity of the Body A before the Shock, and EB the Velocity of B after it.

Now this may be imagined reducible to Practice in the following manner: Suppoſe the Bodies A and B both move the ſame way, and that the Velocity of the precedent Body B be c, and that of the ſubſequent A be C; wherefore the relative Velocity of theſe two Bodies will be $C - c$, and the Sum of their Motions the ſame way $AC + Bc$: Let x denote the Velocity of the ſubſequent Body A after the Concourſe and Shock; then becauſe the relative Velocities of Bodies before and after the Shock continue the ſame, the Velocity of the Body B will be expreſſed by $x + C - c$.



For the relative Velocity of Bodies is equal to that by which the Velocity of the Swifter exceeds that of the Slower; and therefore that Exceſs muſt be expreſſed by $C - c$. Wherefore, ſince the Velocity of the ſubſequent Body $A = x$, its Motion towards D muſt be Ax: And ſince the Velociy of the preceding Body $B = x + C - c$, its Motion alſo towards D muſt be expreſſed thus, $Bx + BC - Bc$; and the Sum of theſe two Motions will be equal to the Sum of the former Motions: That is, in Species, $Ax + Bx + BC - Bc = AC + Bc$; and by Tranſpoſition, $Ax + Bx = 2Bc - Bc + AC$; and then by Diviſion, $x = \frac{2Bc - BC + AC}{A + B} =$ to the Velocity of the Body A. And ſo alſo the Velocity of the Body B is $= x + C - c = \frac{AC - BC + 2Bc}{A + B} + C - c = \frac{AC - BC + 2BC + AC + BC - Ac - Bc}{A + B} = \frac{2AC - Ac + Bc}{A + B}$.

If BC be greater than $AC + 2Bc$, then x or $\frac{AC - BC + 2BC}{A + B}$ will be a negative Quantity; and conſequently the Velocity of the Body A will have a contrary Direction, and its Motion towards D will be Negative.

If the Body B be at reſt, that is, if $c = 0$, then the Velocity of the Body A after the Shock will be $+ \frac{AC - BC}{A + B}$, forwards or backwards according as the Sign + or — prevails. If the Bodies A and B, with the Velocities $C\,c$, move contrary ways, and conſequently meet one another directly; their Motion the ſame way will be expreſſed by $AC - Bc$, and the relative Velocity of the Bodies will be $C + c$. Let then x ſtand for the required Velocity of the Body A after the Shock; its Motion that way it went before the Shock, will be expreſſed by Ax, and the Velocity of the Body B will be $x + C + c$ (for the relative Velocity of Bodies is not alter'd by the Shock) and then the Motion in the Body B towards D, will be $Bx + BC + Bc$; wherefore the Sum of the Motions the ſame way will be $Ax + Bx + BC + Bc$, which will be $= AC - Bc$; ſo that $Ax + Bx = AC - BC - 2Bc$, and $x = \frac{AC - BC - 2Bc}{A + B}$, and the Velocity of the Body B will be $\frac{AC - BC - 2Bc}{A + B} C + c = \frac{AC - BC - 2BC + AC + Ac + BC + B}{A + B} = \frac{2AC + Ac - Bc}{A + B}$. If $BC + 2Bc$ be greater than AC, the Motion of the Body A will be backwards or a contrary way; in which Caſe x or $\frac{AC - BC - 2Bc}{A + B}$.

The Elaſticity of Fluids is accounted for from their Particles being all endowed with a centrifugal Force; whence Sir *Iſaac Newton*, *Prop.* 23. *Book* 2. demonſtrates, That Particles which mutually avoid, or fly off from one another by ſuch Forces as are reciprocally proportional to the Diſtances of their Center, will compoſe an Elaſtick Fluid, whoſe Denſity ſhall be proportional to its Compreſſion; and, *vice verſa*, if any Fluid be compoſed of Particles that fly or avoid one another, and hath its Denſity proportional to its Compreſſion, then the centrifugal Forces of thoſe Particles will be reciprocally as the Diſtances of their Centers.

A good acquaintance with theſe Rules will lead a Perſon into juſter Apprehenſions of the inteſtine Motions of the animal Fluids, and the Conſequences of the Occurſions of their Parts, either as to the Alteration of their Textures, or their affecting the Secretions, that can be had without them, altho ſuch a Perſon may not be able to bring any thing to the Severity of a Calculation. Hence is diſcerned how ſating the Juices with heavy Particles gives them a greater Force againſt the Sides of the Veſſels, and ſecretory Paſſages; and why Particles which are Elaſtick are more diſpoſed to promote the inteſtine Motion of the Blood than any other, by their repeated Occurſions and Reſilitions. And hence alſo are many Phenomena to be better accounted for in both the Pharmacies; as will further appear by the Explanations under their reſpective Names, particularly *Fermentation.*

Elaboration, ſtrictly ſignifies the working any thing with the Hands; but is generally applied in the ſame manner as Digeſtion, or Concoction of the animal Fluids. And from its Derivation ἐλαύνω, *agito,* or *commoveo,* it hath by many, and ſo long ago as *Hippocrates* and *Galen,* been applied to any thing which purges violently; which is confirm'd alſo by *Foeſius* and *Pechlini.*

Electrick, is a Property in ſome Bodies, whereby when rubbed ſo as to grow warm, they draw little bits of Paper, or ſuch like Subſtances, to them, if placed in the Sphere of their Activity: and Amber having this Property in a more remarkable degree, is frequently called

Electrum, the ſame as *Amber,* which ſee.

Electuary, is a Form of Medicine made of Conſerves, Powders, Species, *&c.* into the Conſiſtence of Honey, or the Pap of a roaſted Apple, to be divided into Doſes, when taken, like a Bole. The Form is attended with conſiderable Inconveniencies; for Electuaries generally made up with Honey, or Syrup, when the Conſiſtence is too thin, they are apt to ferment; and when too thick, to candy. By both which, tho' it is exceeding difficult to avoid the one or the other of them, the Ingredients will either be entirely alter'd in their Nature, or impaired in their Virtues. 'Tis therefore pity that this Form ſhould be ſo much in uſe, whilſt others infinitely ſuperior to it in all reſpects, lie neglected or unthought of.

Elements, ſignifies the ſame as *Principles*; ſee *Principia.*

Elephantiaſis, is a Term which has been uſed by the Antients to expreſs different Diſtempers; but what the *Arabian* and *Greek* Phyſicians underſtood under this Term, is of little advantage to us; for what we mean by it is commonly ſignified by the Name of *Lepra,* or *Leproſy,* which ſee.

Elevator, ſignifies a Raiſer, or Lifter up; and therefore is applied to ſome Chirurgical Inſtruments put to ſuch uſes, and deſcribed by *Parey,* and *Scultetus.* Whence alſo

Elevator Labii Inferioris, is a Muſcle that ariſes from the ſecond Bone of the under Jaw below the *Inciſivus.* It deſcends and paſſes under the *Zygomaticus,* and is inſerted into the under Lip. This, aſſiſted by a ſmall but ſtrong Pair of Muſcles, ariſing from the Gums of the *Dentes Inciſivi,* and deſcending directly, is inſerted into the lower Part of the Skin of the Chin, pulls the Skin of the Chin upwards, and conſequently thruſts up the Lip. And,

Elevator Labii Superioris, is a Muſcle that ariſes from the upper Part of the ſecond Bone of the upper Jaw, and deſcending obliquely, is inſerted into the upper Lip above the *Dentes Inciſorii.* It draws up the Lip.

Elevator Oculorum, the ſame as *Superbus Muſculus.* See *Eye.*

Elixation, is the drawing the Virtues out of Ingredients by ſtewing. And,

Elixir, is a Medicine made by ſtrong Infuſion, where the Ingredients are almoſt diſſolved in the *Menſtruum,* and give it a thicker

Conſiſtence than a Tincture. The Original and Etymology of this Term may be at large met with in *Rolfinkius*'s Chymiſtry, *Lib.* 4. *Sect.* 2. *Cap.* 1.

Ellipſis, is an oval Figure, produced from the Section of a Cone, by a Plane cutting both Sides of the Cone (but not parallel to the Baſe, for then it produces a Circle) near to which Figure is that of an Egg cut end-wiſe, and which may be deſcribed upon a Plane by a Line made with a looſe Chord carried round upon two Centers, or Pins.

Elongation, ſignifying lengthening out, is an imperfect Luxation, when the Ligament of any Joint is ſo extended or relaxed as to lengthen the Limb, but yet not let the Bone go quite out of its Place,

Elythroides. See *Generation*, Parts of, proper to Women.

Emanation, is a flowing out, as *Effluvia* or Steams ariſe from any Body. See *Quality*.

Embrocation, from *ἐμβρέχω*, *intingo* to ſoak in; is the rubbing into a Part diſtempered any medicinal Liquors or Spirits.

Embryo, from *ἐμβρύω*, *pullulo*, to ſprout out; is the Rudiments of a Child in the Womb before perfect Formation; thus called from its firſt Growth reſembling that of the firſt Shoots of a Plant, and having no other than a vegetative Life.

Embryothlaſtes, from ἔμβρυον, *Fœtus*, and *θλάω*, *contundo*, to break: And,

Embryulcus, from the ſame, and ἕλκω, *traho*, to draw; are Inſtruments to cruſh the Bones of an *Embryo*, or a dead Child, ſo as to make it eaſier of Extraction, and to lay hold and draw it out of the Womb. And,

Embryotomy, from the ſame, and *τέμνω*, *ſeco*, to cut, is the Anatomical Diſſection of *Embryo's*.

Emerge, from *emergo*, to riſe up or ſwim, is floating in any Fluid; and what does ſo, is often called the *Emergent Body*.

Emetick, from *ἐμέω*, *vomo*, to vomit, is any thing that works by vomiting, which is after this manner: The Particles of the Emetick Medicine by wedging themſelves into the Orifices of the Emiſſaries of the Glands which are placed adjacent to the Surface of the Stomach, do dilate the ſame (which by ſome extrinſecal Cauſe had been contracted) and after the ſame manner do diſſolve (at leaſt in ſome degree) the Coheſion of the ſtagnant morbifick Matter, rendring it more fluid, and conſequently making its Reſiſtance leſs. Now the natural and conſtant Actions of the Glands being Secretion; and the Impediment (by the Dilatation of the Orifice, and the Attenuation of the Fluid) being taken away, or at leaſt made leſs than the natural *Momentum* of the Glands; the Matter muſt naturally flow into the Cavity of the Stomach, till it be heaped up in ſuch a Quantity, (which not being to be done in an Inſtant, muſt require ſome time) as is ſufficient by its *Stimulus* to vellicate and force the Fibres of the Stomach, Abdomen, and Diaphragm, by the Communication of the firſt with the two laſt into a violent Contraction, and thereby throw all out by the *OEſophagus*: and this makes all quiet for a while, till a new and ſufficient Quantity be excerned from theſe Glands to produce the aforeſaid Contraction. And thus there happens a Fit of Vomiting and Quiet alternately, till either all the morbifick

bifick Matter from the Glands. And the ſtrong Contraction in ſo many Muſcles, and muſcular Canals, as are at work in the Action of vomiting, and the violent Concuſſion which is produced over the whole Body. by a Power, which by juſt Computation, is not inferiour to that of 26000 ℔ Weight, may, and often does take away the Obſtructions in many other Canals beſides thoſe which are adjacent to the Stomach and Gullet; as we may plainly ſee by thoſe vaſt Sweats which plentiful Fits of vomiting occaſion. Emetick and purgative Medicines differ only in this, that the Particles of the latter do not immediately *vellicate* the Fibres of the Stomach, *dilate* the Orifices, and *attenuate* the Matter contained in the Glands of the Stomach; but act gently, and aſſiſt the natural Motion of Digeſtion, and ſo are carry'd down into the Guts: and to know how they operate there, ſee *Purgatives.*

Emmenagogues, from ἐν, in, μὴν, *Menſis,* a Month, and ἄγω, *duco,* to lead; are Medicines that promote the *Menſes,* becauſe their natural Periods of flowing are once a Month: and theſe do this, either by giving a greater Force to the Blood in its Circulation, whereby its *Momentum* againſt the Veſſels is encreaſed, or by making it thinner, whereby it will more eaſily paſs thro' any Outlets. The former Intention is helped by Chalybeates, which give a greater Weight and *Momentum* to a languid heavy Blood, and all other Subſtances of the like Gravity and Elaſticity. And this is the Caſe of a *Leucophlegmatic* Habit, or, as it is commonly called the Green-Sickneſs, and its Cure; but in the latter Caſe, where the Blood is florid and too high, attenuating Alteratives and Detergents are the only Remedies, becauſe they are fitteſt to render the Blood more thin, and give it ſuch a Property as will better carry it thro' thoſe little Apertures deſtined for its Diſcharge into the *Uterus.* For the whole that concerns this Subject, conſult Dr. *Freind's Emmenologia.*

Emollients, ſignifying Softners, are ſuch things as ſheath and ſoften the Aſperities of the Humours, and relax and ſupple the Solids at the ſame time. For it is very eaſy to conceive the Manner how theſe are both brought about by the ſame Medicine. By what means ſoever, whether in the Stomach or any other Parts, the Juices have obtained any Sharpneſs or Aſperity, ſo as to vellicate and render very uneaſy the Fibres and nervous Parts, which often happens; thoſe things which are ſmooth, ſoft, and yielding, cannot but wrap up their Points, and render them imperceptible: whereby they may gradually, by the proper Courſe of Circulation, be brought to ſome convenient Emunctory, without doing any Injury by the way. Such Parts likewiſe draw the Fibres into Spaſms, keep them too tenſe, and frequently thereby occaſion Obſtructions of the worſt kind. In all ſuch Caſes therefore Emollients lubricate and moiſten the Fibres, ſo as to relax them into their proper Dimenſions, whereupon ſuch Diſorders ceaſe.

Empiric, from ἐμπειράω, *teneo,* to try; is ſtrictly a Tryer or Experimenter, and vulgarly ſignifies thoſe Perſons who have no true Education in, or Knowledge of the Grounds of Phyſical Practice, but venture upon Hear-ſay and Obſervation only. Medicine was almoſt altogether in the hands of ſuch, before *Hippocrates*; and many pretended only to one Diſeaſe, which they had accuſtomed themſelves to; but the Prince of Phyſick added Reaſon thereunto, and taught the Advantages of Theory. Notwithſtanding which, latter Ages are again much degenerated into *Empiriciſm*; and to one regular knowing Phyſician, ſuch is the Defect of our Laws at preſent in this reſpect, there are fifty that practiſe who are mere *Empiricks*.

Emproſthotonos, is a Convulſion of the Neck, bowing the Body forwards; from ἐμπροσθὲν, *anterius*, forwards, and τείνω *tendo* to ſtretch.

Emplaſtic, and *Emplaiſter*, is a Form of Medicine too well known to want Deſcription: The ſame as Plaiſter; which Term is now moſt commonly uſed.

Empyema, from ἐν, *intus*, within, and πύον, *Pus*, Matter; is a Collection of purulent Matter in any Part whatſoever, ſtrictly taken: but it is generally uſed to ſignify that in the Cavity of the Breaſt only; and which ſometimes happens upon the opening of Abſceſſes, or Ulcerations of the Lungs, or Membranes incloſing the Breaſt. Its Cure is difficult, from the Difficulty of abſorbing by any Veſſels ſuch extravaſated Matter; and therefore often calls for the Help of a Surgeon to diſcharge it by Aperture externally.

Empyreuma, from ἐμπυρόω, *accendo*, to burn; is the burning to of any Matter that is in boiling or Diſtillation, and which gives a particular offenſive Smell that is expreſſed by this Name.

Emrods. See *Hæmorrhoides*.

Emulgent Veſſels, are Arteries and Veins. See *Kidneys*.

Emulſion, ſignifying milking out, is a Form of Medicine made by bruiſing oily Seeds and Kernels, and drawing out their Subſtance with ſome Liquor that becomes thereby milky. And theſe are generally of the emollient kind.

Emunctories, are thoſe Parts of the Body where any thing excrementitious is ſeparated and collected to be in readineſs for Ejectment.

Enarthroſis: The ſame as *Arthroſis*; which ſee.

Endemick, from ἐν, *in*, and δῆμος, *Populus*, People; is any Diſeaſe that affects many People together in the ſame Country, proceeding from ſome Cauſe peculiar to the Country where it reigns: ſuch as the Scurvy to the Northern Climes, Intermitting Fevers to marſhy Places, *&c.*

Enæorema, from ἐναιρέω, *in ſublime attollo*, to lift up, or float, called alſo *Nubeculæ*, little Clouds; are thoſe Contents of the Urine as float about in the Middle, reſembling a Cloud.

Enema, from ἐνίημι, *immitto*, to ſend in; is uſed to expreſs a Clyſter.

Energumeni, ἐνεργούμενοι, expreſſes in ſome Authors a Poſſeſſion by evil Spirits; and

Engaſtrimythos, is one who emits Sounds like the Voice of one ſpeaking out of the Stomach or Belly, without uſing the Organs of Speech; ſuch as is reported of the *Pythian* Propheteſs, and the like.

Energy, from ἐνεργέω, *operor*, to work, is uſed to expreſs an uncommon Force in any Action that is done with Briskneſs and Vigour.

Enervation, is a Debility and Liſtleſſneſs to Action.

Ens, properly ſignifies any Being or Exiſtence; but by the Chymiſts it is introduced into Medicine to expreſs ſome things that are pretended to contain all the Qualities or Virtues of the Ingredients they are drawn from in a little room.

Enixum, from an original ſignifying to bring forth, is by the Chymiſts applied to a kind of Salt, partaking both of an acid and alkaline Nature, as the *Tartar of Vitriol*, which ſome alſo call *Sal Neutrum*, *Sal Tertium*, and *Sal Salſum*.

Enſiformis Cartilago. See *Cartilago Enſiformis.*

Enterology, from ἔντερον, *Inteſtinum*, a Gut, and λόγος, *Sermo*, a Diſcourſe; is a Treatiſe of the Bowels: and is generally underſtood to include the Contents of the three Cavities, Head, Breaſt, and Belly.

Enterocele, from ἔντερον, *Inteſtinum*, a Gut, and κήλη, *Tumor*, a Swelling; is a Rupture from the Bowels preſſing thro' or dilating the *Peritonæum*, ſo as to fall down into the Groin. The Remedy in ſuch Caſes is chiefly by outward Application, as Truſſes and Bolſters.

Epaſmaſtica Febris: a Fever is thus termed by *Bellini*, and others long before him, while it is in its Encreaſe.

Ephemera, from ἐπὶ, *ſupra*, upon, and ἡμέρα, *Dies*, a Day; is a Fever that terminates in the compaſs of one Day.

Epicarpium, from ἐπὶ, *ſupra*, upon, and καρπὸν, *Carpus*, the Wriſt; are Medicines applied to the Wriſts of any kind, but for Conveniency they are generally in the Forms of Cataplaſms or Plaiſters.

Epiceraſtick, from ἐπὶ, *ſupra*, above, and κεράννυμι, *tempero*, to correct; is a Medicine that aſſuages and corrects ſharp Humours.

Epicolick Regions, from ἐπὶ, *ſupra*, upon, and *Colon*, the Gut ſo called, is that Space on both Sides, where the *Colon* runs under: and thus firſt called from Dr. *Gliſſon*.

Epicycloid is the Line deſcribed by one Circle rolling upon the periphery of another.

Epidemius, the ſame as *Endemius*; but this is often uſed in a ſomewhat more extenſive Signification, to expreſs an Infection, as that of the Plague, which reaches ſeveral Countries at the ſame time.

Epidermis. See *Cuticula.*

Epididymis, from ἐπὶ, *ſupra*, upon, and δίδυμος, *Teſticulus.* See *Generation* Parts of, proper to Men.

Epigaſtrium, from ἐπὶ, *ſupra*, upon, and γαστὴρ, *Venter*, the Belly, is the upper Part of the *Abdomen*, reaching from the *Cartilago Enſiformis* till within two Fingers breadth of the Navel. Its two Sides are the *Hypochondria*; the right of which covers the greateſt Part of the Liver; the left the Spleen, Part of the Stomach and *Colon*.

Epiglottis, from ἐπὶ, *ſupra*, above, and γλῶσσα, *Lingua*, the Tongue; thus called from its Poſition above the Root of the Tongue. It is one of the five Cartilages of the *Larynx*, which ſee.

Epilepſy, from ἐπιλαμβάνω, *invado*, to ſeize; becauſe it ſuddenly comes upon a Perſon. It is alſo called *Morbus Caducus*, from Peoples ſuddenly falling down upon their ſeizure with it: and many other Appellations it has by phyſical Authors, ariſing from ſome particular Circumſtance, not worth our notice; it being ſufficient to know that *It is a Convulſion, or convulſive Motion of the whole Body, or of ſome of its Parts, with a Loſs of Senſe.* A Convulſive Motion happens when the Blood or nervous Fluid runs into any Parts with ſo great a Violence, that the Mind cannot reſtrain them from Contraction. The Cauſes of a Convulſion are all things that produce too much *Repletion*, or *Inanition*; ſo that if a greater Quantity of Blood or nervous Fluid enters into a Muſcle than into its oppoſite, and that involuntarily, the Force impreſſed thereby will be greater; and ſo there will be a greater Inflation and Contraction, and that too without the Direction of the Will, which is a Convulſion: but if into ſuch a Muſcle a leſſer Quantity is derived than into its Antagoniſt, there will be a Contraction of its oppoſite, and on that Side a Convulſion. But ſome late Writers have found fault with this Opinion, only becauſe they did not underſtand it: and they have ſubſtituted in its room an Irritation, or Vellication; but that alſo may be referred to Repletion, becauſe by all thoſe means which produce Pain, the Quantity of any derivable Fluid will be drawn into the Part affected, greater than what is natural, and thereby cauſe a Repletion of the vellicated Part. Hence it will be eaſy to underſtand that an Epilepſy differs from a Convulſion only in this, that in an Epilepſy, Senſation ſuddenly ceaſes, with an immediate Proſtration of the Body; and the *Rationale* of all thoſe Symptoms wherein an Epilepſy differs from a Convulſion, is the ſame as that of the Symptoms of an Apoplexy, or rather a *Vertigo*; both which ſee. The Cure in this Caſe requires a diligent Attention to which of theſe Extremes the Diſtemper proceeds from, and to uſe Evacuation or Reſtoratives as is thereby indicated.

Epileptick Medicines, are ſuch as are uſed againſt the Epilepſy.

Epinyctis, is an angry Tumour affecting the Skin in the Arms, Hands, and Thighs; the Antients rank with it the *Terminthus*, which is ſomewhat leſs. It is of the bigneſs of a *Lupin*, of a dusky red, and ſometimes of a livid and pale Colour, with great Inflammation and Pain. In a few Days it breaks and gleets, and ſeparates away in a ſlough.

Epiphora, from ἐπιφέρω, *infero*, to carry into; ſignifies an Inflammation of any Part; but is more eſpecially uſed to ſignify a Defluxion or Humours upon the Eyes. The Cauſes and Cure the ſame as in a *Catarrh*; which ſee.

Epiphyſis, from ἐπιφύω, *accreſco*, to grow to; is when one Bone grows to another by ſimple Contiguity, without any proper Articulation.

Epiplocele, from ἐπίπλοον, *Omentum*, the Caul, and κήλη, *Tumor*, a Swelling; is a Rapture of the Caul, which falls down into the Cod.

Epiplcis Dextra, is a Branch of the Celiack Artery, which runs thro' the right Side of the inner or hinder Leaf of the Caul.

Epiplois Poſtica, is a Branch of the Celiack Artery, ſpringing out of the lower End of the *Splenica*, and running to the hinder Leaf of the Caul.

Epiplois Siniſtra, is a Branch of the Celiack Artery, that is beſtowed on the lower and left ſide of the Caul.

Epiploon. The ſame with *Omentum*.

Epiſpaſtick, from ἐπισπάω, *attraho*, to draw, ſignifies ſtrictly any Drawer, but is generally uſed to ſignify Bliſtering-Plaiſters.

Epiſtrophæus, from ἐπιτρέπω, *converto*, to turn about; is applied to the firſt *Vertebra* of the Neck, becauſe it turns about upon the ſecond as upon an Axis: and which therefore was ſo called by the Antients. See *Cardo*.

Epithem, from ἐπιτίθημι, *impono*, to put upon; is any outward Application, but generally ſignifies thoſe of a liquid Form, like a Fomentation.

Epulotick, from ἐπȣλόω, *Cicatricem infero*. See *Cicatrix*.

Equable Motion, is ſuch as continues with the ſame Degree of Velocity: and if there be an Acceleration or Retardation of two or more Bodies, that is uniformly and exactly the ſame in both, then they are ſaid to be equably accelerated or retarded.

Equivocal Generation, is the Production of Plants without Seed, or of Inſects or Animals without Parents, in the natural way of Coition between Male and Female: which is now believed never to happen, but that all Bodies are univocally produced.

Eradicative, is by *Fallopius de Purgat. Simpl.* uſed for ſuch things as work powerfully; the Word importing to root out, in oppoſition to *Minoratives*, which operate but gently.

Erectores Clitoridis, are two Muſcles ariſing from the Protuberances of the *Iſchium*, and are inſerted into the ſpongious Bodies of the *Clitoris*, which they erect in Coition.

Erectores Penis, are two Muſcles ariſing fleſhy from the Protuberances of the *Iſchium*, below the beginning of the cavernous Bodies of the Yard, into whoſe thick Membranes they are inſerted. Their uſe is to pull the Yard towards the *Os Pubis*, whereby its greateſt Vein is compreſs'd, and the refluent Blood denied its Paſſage under thoſe Bones, which makes it ſwell.

Erode, and *Eroſion*; the ſame as *Corroſion*, which ſee.

Erratick, is uſed by Phyſicians in various Senſes but chiefly for wandring Pains, and ſometimes for Fevers of uncertain Periods.

Errhine, from ἐν, *in*, and ῥὶς, *Naſus*, the Noſe; are Medicines to ſnuff up the Noſe, to occaſion ſneezing, enliven the Spirits, or purge the Head.

Eructation, Belching. The ſame as *Ructation*.

Eruption, is any breaking out, from *erumpo*, to break out.

Eryſipelas, ἐρυσίπελας, is a cutaneous Inflammation, ſometimes with a ſuperficial Tumour, called alſo *Ignis Sacer*, and St. *Anthony*'s Fire. The Antients diſtinguiſhed this into various kinds, which are not of ſufficient Moment to be taken notice of here.

Erythroides, from ἐρυθρον, *rubrum*, red, and εἶδος, *Forma*, Appearance: is a red Membrane, called alſo *Tunica Vaginalis*, embracing looſely the whole Body of the Teſticles, and adhering to one end of the *Epididymis*. See *Generation* Parts of, belonging to Men.

Eſchar, is a hard Cruſt or Scab, made by

Eſcharoticks. See *Cauſticks*.

Eſſay-Inſtrument, a little hollow Inſtrument made of Box, Ivory, or the like, which by being plunged into Liquors, will by the Marks put upon it diſcover their Specific Gravities, according to which it ſinks more or leſs therein.

Eſſence, is ſtrictly that which conſtitutes the Nature of any thing, and makes it be what it is; but in Medicine it is uſed to ſignify the chief Properties or Virtues of any Simple, or Compoſition, collected together.

Eſſential Oils, are ſuch as were really in a Plant, and drawn from it by Diſtillation, in diſtinction from thoſe made by Inſolation.

Eſſential Properties, are ſuch as neceſſarily depend upon the Nature and Eſſence of any thing, and are inſeparable from it; in diſtinction from accidental.

Eſſential Salts, are ſuch as will cryſtallize in the Juice, or an Infuſion of Plants, in diſtinction from thoſe made by Incineration, and appear to be actually contained in the Plant.

Eſurine Salts, are ſuch as are of a corroding Nature, and abound in Places near the Sea-ſide, and where great a Quantity of Coal is burnt; as appears from the ſpeedy ruſting of Iron in ſuch Places. This Term is alſo applied to many things of a corroſive Quality; as by *Paracelſus* to things which excite Hunger by vellicating the Stomach, and by Dr. *Charlton* to that Juice which naturally ſeparates into the Stomach, and is ſuppoſed a chief Inſtrument in Digeſtion.

Etherial Oil. The Chymiſts thus call a high rectify'd Oil, that differs little from an inflammable Spirit, as the Oil of Turpentine, and the like.

Ethmoides, from ἦθμος, *Cribrum*, a Sieve, and εἶδος, *Forma*, Shape, the Sieve-like Bone. It is ſituated in the middle of the Baſis of the *Os Frontis*. It is perforated by a number of ſmall Holes, thro' which the Fibres of the Olfactory Nerves paſs; for which it has this Name. It is joined to the *Os Frontis* and *Sphenoides*, by the *Sutura Ethmoidalis*. In its middle it has a ſmall Proceſs called *Criſta Galli*, to which the Fore-end of the *Falx* is tied. From its under Side there goes a thin Bone, which divides the Cavity of the Noſtrils in two; the lower End of which is grooved with the *Vomer*. On each ſide of this Partition it has ſeveral ſmall ſpongious *Laminæ*, called *Oſſa Spongioſa*, which are full of little Cells, at their Juncture with the *Ethmoides*. The two external *Laminæ*, or the *Oſſa Spongioſa*, make Part of the Orbit at the great *Canthus*; and they are called *Plana*, becauſe they are ſmooth and even.

Evacuation, ſignifies any Diminution of the animal Fluids, whether it be by Catharticks, or Blood-letting, or any other Means.

Evaporation, is that Operation in Pharmacy by which Liquids are ſpent or drove away in Steam, ſo as to leave ſome Part ſtronger, or of a higher Conſiſtence than before.

Euchraſy, from ἐυ, *bene*, good, and κρᾶσις, *Temperamentum*, a Conſtitution; is an agreeable well-proportioned Mixture of Qualities, whereby a Body is ſaid to be in good Order, that is, a good State of Health.

Euodia, or ἐυώδης, in oppoſition to *Dyſodes*, is uſed by *Hippocrates* in his *Epidemicks*, to expreſs an healthful or agreeable Diſpoſition; as alſo a ready Method for obtaining any End: and by *Scribonius Largus* it is applied to a particular *Collyrium*. But we have not heard of this Term latterly, unleſs prefixed to a Book, the Contents of which are as whimſical and unintelligible as the Title.

Euphoria, is uſed by ſome to expreſs that Eaſe with which ſome bear the Courſe of a Diſtemper, or the Operation of a Medicine; as alſo the Aptitude of ſome things to particular Operations.

Eurythmus, ἐυρυθμία, is an healthful or regular Tenour of the Pulſe.

Euſarcos, εὔσαρκος, is uſed by *Galen*, and others ſince, for ſuch a Proportion of Fleſh as is not too lean or too corpulent, but gives due Symmetry and Strength to all the Parts. As,

Euſplanchnos, is applied by *Hippocrates* to thoſe who are ſuppoſed to have ſound *Viſcera*. Thus the Adverb εὖ is put to ſeveral things to expreſs the Goodneſs of their Condition: as *Eutaxia*, for an healthful State; *Euthanaſia* for an eaſy or happy Death, *&c.*

Exacerbation, the ſame as *Paroxyſm*; which ſee.

Exaltation, is the raiſing a Medicine to a higher degree of Virtue; or an Encreaſe of the moſt remarkable Property of any Body.

Exanguis, ἔξαιμος, without Blood. So *Galen* and the Antients called the Nerves, Cartilages, Bones, and other Parts which appeared white.

Exanimation, is uſed by *Scribonius Largus* for real Death; but is generally applied to ſwoonings, or ſuch ſinking of the Spirits, as is attended with Loſs of Senſe for ſome time.

Exanthema, from ἐξανθέω, *efferveſco*, to flower out; is ſuch an Eruption of the Skin as the Meaſles, and is generally attended with a Fever, and terminates in a Raſh.

Exarticulation, the ſame as *Luxation*; a Bone disjointed.

Excandeſcentia, is uſed by ſome Phyſical Writers to expreſs an Aptneſs to ſuch Paſſions of the Mind, as bring on real Diſtempers.

Excoriation, is a tearing off the Skin.

Excortication, is pulling the Bark off any thing.

Excreſcence, is a preter-natural Growth of any thing beyond its proper Dimenſions, as Wens, Warts, and the like.

Excretion, is that Separation of an animal Subſtance, as ejects ſomewhat quite out of the Body, as of no further uſe; which is called

Excrement.

Exhalation, the ſame as *Evaporation*; which ſee.

Exaninition, the ſame as Evacuation.

Exoneiroſis, is by *Linden* explained for a Species of a *Gonorrhea*, commonly called *Pollutio Nocturna*, when the *Semen* involuntarily flows in Sleep.

Expothalmia, is an uncommon Prominence of the Eye out of its Socket, of which *Bonetus* gives a very remarkable Caſe, *Med. Sept. Lib.* I. *Cap.* 64.

Exorciſm, hath been introduced into the Practice of Phyſick by Enthuſiaſts, who pretended by ſome religious Ceremonies, to expel an evil Spirit out of a Body, which was ſuppoſed the Cauſe of Diſeaſes.

Exoſtoſis, from *ex*, and ὀστέον, *Os*, a Bone; is any Protuberance of a Bone that is not natural, as often happens in Venereal Caſes.

Exotick, is applied to thoſe things which are the natural Produce of other Countries, and not of our own.

Expanſion, ſpreading out, in a phyſical Senſe is the ſtretching out, opening, or ſpreading of any Body, but generally ſignifies ſuch an Alteration as is made by *Rarefaction*; which ſee.

Expectoration, is promoting thoſe Diſcharges which are made by coughing; as bringing up Phlegm, or any thing that obſtructs the Veſſels of the Lungs, and ſtrengthens the Breath.

Expiration, from *exſpiro*, to breathe out; is that Part of Reſpiration as thruſts the Air out of the

Lungs, and contracts the Cavity of the Breaſt. See *Reſpiration.*

Exploſion, is properly the going off of Gun-powder, and the Report made thereby; but is uſed frequently to expreſs ſuch ſudden Actions of Bodies as have ſome Reſemblance thereunto: as thoſe which ferment with Violence immediately upon their Mixture, and occaſion a crackling Sound. Some Writers have likewiſe applied it to the Excurſions of animal Spirits, and inſtantaneous Motions of the Fibres, on the Mind's Direction; but the Term then becomes too figurative to expreſs any determinate Signifiation, ſo as really to inform the Underſtanding.

Expreſſed Oils, are ſuch as are procured from any Bodies only by preſſing, as the Oils of Olives, Almonds, and the like. And the doing this is called

Expreſſion.

Expulſion, the ſame as *Excretion*; and the Power of expelling any thing, is by ſome Writers called *Facultas expultrix.*

Exſpuition, ſignifies a diſcharge of *ſaliva* by ſpitting. See *Salivation*, and *Maſticatories.*

Exſudation, ſweating out, as Gums or Balſams out of Trees.

Extenſion, ſtretching out; the ſame as *Expanſion.*

Extenſores: Many Muſcles are ſo called, which ſerve to extend any Part; as,

Extenſor Carpi, which is alſo called *Bicornis*, is two diſtinct Muſcles. The firſt ariſes from above the external Protuberance of the *Humerus*, and the ſecond from the lowermoſt Part of the external Protuberance. They both lie along the external Part of the *Radius*; and paſſing under the annular Ligament, one is inſerted into the Bone of the *Metacarpus* that ſuſtains the Fore-Finger, and the other to that which ſuſtains the Middle-Finger. Theſe two extend the Wriſt.

Extenſor Digitorum Communis, ariſes from the external Protuberance of the *Humerus*; and at the Wriſt it divides into three flat Tendons, which paſs under the annular Ligament, to be inſerted into all the Bones of the Fore, Middle, and Ring-Finger.

Extenſor Primi Internodii Pollicis, ariſes from the upper and external Part of the *Ulna*, and paſſes obliquely over the Tendon of the *Radius Externus*, and is inſerted near the ſecond Joint of the Thumb.

Extenſor Secundi internodii Pollicis, ariſes from the upper and internal Part of the *Radius*, and is inſerted into the upper part of the ſecond Bone of the Thumb.

Extenſor Tertii Internodii Pollicis, ariſes from the *Ulna*, a little below the firſt *Extenſor*, and is inſerted into the third Bone of the Thumb.

Extenſor Indicis, comes from the middle and external Part of the *Ulna*, and paſſing under the annular Ligament, is inſerted into the third Bone of the Fore-Finger, where it joins the *Extenſor Communis.*

Extenſor Minimi Digiti, ariſes from the external Protuberance of the *Humerus*, and from the upper part of the *Ulna*, and paſſing under the annular Ligament, is inſerted into the third Bone of the Little-Finger.

Extenſor Pollicis, ariſes from near the upper half of the *Perone* forwards, and paſſing under the annular Ligament, is inſerted into the laſt Bone of the great Toe.

Extenuation, ſignifies a Loſs of *plumpneſs*, or a general decay in the muſcular fleſh of the whole Body.

Externus Auris, and *Malleolus.* See *Ear.*

Extinction, is the putting out any thing that was burning.

Extirpation, is the cutting off any Part, or the eating it away; as Warts, and ſuch like Subſtances, by corroſive Medicines.

Extraction, in the largeſt Senſe, ſignifies any Solution made by *Menſtruums,* unleſs there be allow'd this difference between them; That in Solution the *Menſtruums* abſorb the whole Subſtance of the Body, but in this they carry off only certain Particles of it. And in this ſenſe Camphire is diſſolved in Spirit of Wine, but Jallap is more properly ſaid to be extracted; for the Reſin only is taken out by the *Menſtruum,* the other Particles being left untouched. But Extraction moſt commonly ſignifies ſuch an Inſpiſſation, or thickning of a Solution, as, when there is drawn off a certain Quantity of the *Menſtruum,* reduces the remaining Mixture to the Conſiſtence of Honey; as in the Extracts of Saffron, Gentian, and the like. Extracts are chiefly made out of Vegetables, and require different *Menſtruums* according to the different Nature of the Plants, eſpecially in Gums; for ſuch as are mucilaginous, as Gum Arabick, and Tragacanth, *&c.* are not eaſily to be diſſolved but in aqueous Liquors; whereas on the other hand, reſinous Gums, as Galbanum, Scammony, *&c.* muſt have burning Spirits to diſſolve them. There are others again of a middle Nature, which may be diſſolved in either ſort of *Menſtruums,* tho not ſo eaſily in one as in the other. Thus Aloes and Rhubarb, which are ſomething reſinous, are better made into Extracts with Spirit of Wine than Water. But Plants, which abound leſs with Reſin, ſuch as Hellebore, *&c.* are more commodiouſly extracted with Water. To perform therefore Extraction aright, a proper *Menſtruum* is neceſſary, and one which is as near a-kin as poſſible to the Body to be extracted. Thus Extraction is uſually performed; but its Uſe does not ſeem to be of ſo great Service in Phyſick, as is generally imagined: For almoſt all the more ſubtile Parts fly away, either when the *Menſtruum* is drawn off by Diſtillation, or when it evaporates in the open Air. So that if thoſe Particles are any ways uſeful in Medicine, 'tis to no purpoſe to ſeek for them in Extracts; but if we would have only a Collection of the more groſs and unactive Parts, there is no other kind of Operation which will ſo happily ſupply us with them. It is alſo of ſervice to clear ſome Gums and Reſins from Droſs: for as the taking up the genuine Subſtance by a proper *Menſtruum,* leaves all that is not ſo behind; ſo by evaporating the *Menſtruum* again, the Reſin, or whatſoever of that nature it is, will be recover'd in its utmoſt Purity.

Extraneous, any thing foreign. It is alſo uſed to expreſs the ſame as external, and frequently ſignifies the ſame as Excreſcence, ſomething that is not natural to the Subſtance it grows out of, or properly belongs to a Part to which it adheres.

Extravaſated, is any thing that is got out of its proper Veſſel; from *extra,* out of, and *Vas,* a Veſſel.

Exulceration, the ſame as Ulcer; but generally uſed to expreſs thoſe beginning Eroſions, which wear away the Subſtance, and form an Ulcer.

Exungulate, is cutting off the white Part from the Leaves of Roſes, or the like.

Exuſtion, is a burning with Fire, as it is uſed in ſome Operations by Surgeons.

Eye. The Orbit in which the Eye is placed, is compoſed from ſome of the Bones of the Skull and upper Jaw together. The upper part of it is made of the *Os Frontis*: the *Os Unguis* and *Os Planum* make the inner and lower Part of the great Angle, and the *Os Sphenoides*, the inner and lower of the little Angle. The *Os Maxillare* makes the inner and lower part of the Circumference, and the *Os Mali* the outer and lower Part. The Organs of Sight are divided into two Parts; the internal Part, which is the Globe or Body of the Eye; and the external Part, which is thoſe Parts about the Globe ſubſervient to it. The firſt of the laſt are the Eye-Brows, which are nothing but ſome Hairs bunching out about the Eye, by ſome Fat which is under the Skin in this Place. They break the Rays of Light, that they may not be directly darted into the Eyes, which would greatly offend the Sight, as they do when we look directly againſt the Sun. The next are the Eye-Lids, two to each Eye: The upper Lid moves very quickly, the under very undiſcernably. The upper Eye-Lid is lifted up by the *Muſculus rectus*, which riſes from the bottom of the Orbit of the Eye, where the Optick Nerve pierces the *Cranium*, and paſſing above the *Superbus*, is inſerted by a large Tendon to the Border of the Eye-Lid. Both Lids are brought together to ſhut upon the Eye by another Muſcle, called *Orbicularis*. It riſes from the great Angle of the Eye, and its Fibres are ſpread two Fingers breadth, covering the under Lid; it reaches to the little *Canthus*, from which continuing its circular Fibres which cover the upper Lid, it is inſerted into the ſame place from which it aroſe. Some divide this Muſcle into two, the ſuperior and inferior, which they make to riſe from the great *Canthus*, and to be inſerted into the little *Canthus*. The Eye-Lids are covered within by a ſmooth Membrane called *Conjunctiva*, becauſe it is continued upon the fore-part of the Globe, conſtituting that which we call the White of the Eye; it joins the Globe to the Edges of the *Orbit*. The Edges of the Eye-Lids have two ſmall and ſoft Cartilages, like the Segments of a Circle, called *Cilia*; they keep the Eye-Lids extended, that every Part may be equally raiſed. Upon them there is a Rank of ſmall Glands, whoſe excretory Channels open upon the Edges of the Lids. They yield a Wax which faſteneth the Eye-Lids together whilſt we ſleep. They are covered with the Skin externally, and with the *Conjunctiva* internally. Upon the Edges of the Lids there are alſo ſome Hairs in form of a Palliſado, to preſerve the Eyes, as the Eye-Brows do, and to hinder any Filth or Flies from falling into the Eyes.

On the backſide of the *Conjunctiva*, upon the upper part of the Globe, is the *Glandula Lachrymalis*, pretty large, divided into ſevaral Lobes, each of which ſends out an excretory Channel, which opens in the fore-ſide of this Membrane, where it covers the upper Lid. This Gland ſeparates the Matter of the Tears, which by the continual Motion of this Lid, moiſten the *Cornea*, which otherwiſe would dry and wrinkle by the continual Action of the external Air. The Edges of the Eye-Lids being of an equal Convexity with the Ball of the Eye, which they touch, as the Tears fall from off the *Cornea*, they are ſtopt by the Edge of the under Lid, along which they run, till they fall into two ſmall Holes in the great *Canthus* of the Eye, one in each Eye-lid. Theſe Holes are called *Puncta Lachrymalia*. They lead to a ſmall membranous Bag, which is ſituated in this Corner, upon the *Os Lachrymale*; from the bottom of which there goes a ſmall Pipe, which pierces this Bone into the Noſe, and opens under the upper *Lamina* of the *Os Spongioſum*. It moiſtens the inner Membrane of the Noſtrils, by the Humour of the Lachrymal Gland, which runs from off the Globe into them. Sometimes the Acrimony of this Humour cauſeth Sneezing, which we hinder, by preſſing the Angle of the Eye, and ſo ſtop its running. Between theſe two *Puncta* there is a *Caruncle* which ſerves to keep them open when the Eyes are ſhut; which was thought to be the *Glandula Lacrymalis*.

The Globe of the Eye is moved by four ſtrait Muſcles, and two oblique; and betwixt them there is a great deal of Fat, which facilitates the Motion of the Globe. The firſt of the four ſtrait Muſcles is called *Attollens*, or *Superbus*; it lies upon the upper part of the Globe, and pulls up the Eye when we look up. The ſecond is called *Deprimens*, or *Humilis*, becauſe it pulleth down the Eye. The third is called *Adductor*, it draweth the Eye towards the Noſe. The fourth *Abductor*; it draweth the Eye towards the little *Canthus*. They riſe all four from the Circumference of the Hole in the Orbit, thro' which the Optick Nerves paſs; and they terminate about the *Cornea* by four thin and broad Tendons. When they all act together, they draw the Eye towards the bottom of the Orbit. When the *Superbus* and the *Adductor* and *Abductor* act together, or the *Humilis* and the other two act together, they perform the oblique Motions, which have been attributed to the oblique Muſcles. The firſt of the oblique Muſcles, which is the fifth of the Eye, is the *Obliquus minor*; it riſes from the lower ſide of the Orbit near its external Circumference, where the firſt and ſecond Bones of the upper Jaw join together; and aſcending oblique by the outer Corner of the Eye, 'tis inſerted into the upper and external ſide of the Globe behind the Tendon of the *Abductor*. The ſecond of the oblique Muſcles, and the fifth of the Eye, is the *Obliquus major*; it riſes from the bottom of the Orbit, and marches obliquely towards the great *Canthus*, in the upper part of which, near the Brink, there is a cartilaginous Ring, thro' which it paſſes its round Tendon; from whence reverting backwards, it is inſerted into the upper part of the Globe, behind the Tendon of the *Attollens*. The Uſe of the firſt of theſe Muſcles is to draw the Globe of the Eye forwards, and to turn its Pupil upwards, and of the ſecond, to draw it forwards, and to turn its Pupil downwards, for the better receiving of the Rays of Light, which could not be perform'd by any of the other four Muſcles: And both of them are an Axis for ſuſpending the Globe, by which, in its almoſt continual Motion, 'tis moved the more eaſily.

Now the Globe of the Eye is of a ſpherical Figure; in it are contained the principal Inſtruments of Viſion; it is compoſed of Coats and Humours. The firſt is the *Conjunctiva*;

it makes the White of the Eye, as has been already deſcribed. It is full of ſmall Veins and Arteries, which appear big in an *Ophthalmia* or Inflammation of the Eyes. The ſecond is called *Sclerotica* ; 'tis thick, hard, and ſmooth, opake behind, but tranſparent before, where it makes the third Coat called *Cornea*, becauſe it is tranſparent like the Horn of a Lanthorn, in the fore-part of the Eye, which is ſurrounded by the White of the Eye ; it has a greater Convexity than the reſt of the Globe of the Eye, and is compoſed of ſeveral parallel *Laminæ*, which are nouriſhed by many Blood-Veſſels, ſo fine as not to hinder even the ſmalleſt Rays of Light from entring the Eye : and it has a moſt exquiſite Senſe, that upon the leaſt Pain the Tears might be ſqueezed out of the lachrymal Gland, to waſh off any Filth which by ſticking to the *Cornea*, might render it opake. The fourth is the *Choroides*, it lies under the *Sclerotica*, and is much thinner than it. It hath a great Number of Blood-Veſſels which come from the ſecond, and which are ſpread upon it ; as alſo ſeveral Glands, which ſeparate from the Blood-Veſſels a black Liquor, and tinctures all this Membrane internally, which is otherwiſe of a whitiſh Colour. This Coat is open, or has a Hole before, for the Paſſage of the Rays of Light, called *Pupilla*. The Part of this Coat which makes the Circumference of this Hole, and which lies upon the ſide of the Cryſtalline Humour, is the fifth Coat called the *Uvea*, made of circular and ſtrait Fibres ; it contracts and dilates, according to the different Impreſſions of Light, and of Objects. The *Iris* is the outſide of the *Uvea*, where the different Colours appear. On the inſide of the *Uvea*, from its Circumference, which joins the *Choroides*, riſes the *Ligamentum Ciliare*. It is made of ſhort Fibres which run upon the fore-part of the glaſſy Humour to the Edges of the Cryſtalline, like Lines drawn from the Circumference to the Center. By the Contraction of theſe Fibres, the fore-part of the Eye is made more prominent, and the *Retina* preſſed further back from the Cryſtalline Humour, as the Axis of Viſion is lengthened when Objects are placed too near the Eye. The ſixth is the *Retina*, ſo called becauſe it reſembles a Net which covereth the bottom of the Cavity of the Eye. It is a fine Expanſion of the medullary Fibres of the Optick Nerves upon the Surface of the glaſſy Humour, as far as the *Ligamentum Ciliare*. It is on this Coat the Impreſſions of Objects are made.

The Humours of the Eye are three : The firſt is called the *Aqueous* ; it lies in the fore-part of the Globe, immediately under the *Cornea* ; this Humour is thin and liquid, of a ſpirituous Nature, for it will not freeze in the greateſt Froſt : This evinces the neceſſity of a continual Supply of this Humour ; which is manifeſt it hath, becauſe if the *Cornea* be pricked, and this Humour ſqueezed out, it will be reſtored again in ten or twelve Hours. The ſecond Humour is the *Cryſtalline* ; it lies immediately next to the *Aqueous*, behind the *Uvea*, oppoſite to the *Pupilla*, nearer to the fore-part than the back-part of the Globe ; it is the leaſt of the Humours, but much more ſolid than any of them : Its Figure, which is Convex on both ſides, reſembles two unequal Segments of Spheres, of which the moſt Convex is on its back-ſide, which makes a ſmall Cavity in the *Glaſſy* Humour in which it lies; it is covered with a ſmall Coat called *Aranea.* The third is the *Glaſſy* Humour: it hath a great reſemblance to the White of an Egg; it filleth all the hind-part of the Cavity of the Globe: It is in greater abundance than the other two; it is thicker than the *Aqueous*, but thinner than the *Cryſtalline* Humour. It is contained in a very fine Coat of the ſame Name; and it gives the Spherical Figure to the Eye. Upon its back-part the *Retina* is ſpread, which it holdeth from the *Cryſtalline* Humour at a diſtance requiſite to receive the Impreſſion of Objects diſtinctly.

The Optick Nerves pierce the Globe of the Eye a little on the inſide of the Optick Axes. Their external Coat, which is a Production of the *Dura Mater*, is continued to the *Sclerotis*, as their internal from the *Pia Mater* is to the *Choroides*; and their medullary Fibres paſſing thro' all, are expanded into the *Retina*, upon which the Images af Objects are painted. The Center of this Expanſion is inſenſible, and all Rays which fall upon it are loſt; and conſequently that Point of the Object from which theſe Rays come, is inviſible to the Eye; the reaſon of which proceeds probably from the Blood-Veſſels, which enter with the Optick Nerve, and cover this part of the *Retina*. But whatſoever its Cauſe is, there is a manifeſt Advantage in the Optick Nerves being inſerted on the inſide of the Optick Axes: for if they had pierced the Eye in the Axes, then the middle Point of every Object had been inviſible; and where all things conduce to make us ſee beſt, there we had not ſeen at all. We muſt likewiſe have loſt ſome part of an Object, if the Optick Nerves had been placed on the out-ſide of the Optick Axes: becauſe an Object may be ſo placed, as that all the Rays which come from one Point, may fall upon the outſide of both Eyes: but it is impoſſible they ſhould fall upon the inſide of both Eyes; and therefore that Point which is loſt in one Eye, is viſible by the other.

The Veſſels of the Eyes are Branches of the external *Carotides* and *Jugulars*, which are diſtributed upon the external Parts of the Eyes, and a Vein which opens into the ſuperior *Sinus* of the *Dura Mater*, in the Baſis of the Skull, and an Artery from the internal *Carotide.* They accompany the Optick Nerves, and are diſtributed on the Muſcles and Globe of the Eye. There are alſo ſome Lymphaticks which accompany the Blood-Veſſels. The Optick Nerves are pretty big and round. The third Pair of the Brain, called *Motorii*; the fourth Pair, called *Pathetici*; the firſt Branch of the fifth Pair, called *Opthalmicus*; and the ſixth Pair, are all beſtow'd on the Muſcles of the Eye.

All the Rays which come from one Point of an Object, are by the *Cornea* and Humours of the Eye united in a Point of the *Retina*, which is in a ſtrait Line, drawn from the ſame Point of the Object, thro' the Center of the Eye; and conſequently all the Rays, which come from all the Points of an Object, are united on the *Retina*, in the ſame Order and Proportion as the Points of the Object are from whence thoſe Rays come. Therefore the Interpoſition which theſe Rays make upon the *Retina*, muſt be the Image of the Object. And thus Viſion in general is perform'd: but to know what the ſeveral Parts of the Globe contribute hereunto, it is needful to obſerve, that the *Cornea* is more convex than any other part of it; by which means all the Rays are gathered to paſs thro' the *Pupilla*, and none of them are loſt upon the *Uvea*. The *Aqueous* Humour being thinneſt, and moſt liquid, eaſily changes its Figure, when either the *Ligamentum Ciliare* contracts, or both the oblique Muſcles ſqueeze the middle of the Bulb of the Eye, to render it oblong, when Objects are too near us. The ſtrait Fibres of the *Uvea* dilate the *Pupilla*, when there are but few Rays of Light; and the circular Fibres contract it, when there are too many. When the *Pupilla* is contracted, we ſee moſt diſtinctly; when it is dilated, we ſee moſt clearly. The *Glaſſy* Humour keeps the *Cryſtalline* at ſuch a diſtance from the *Retina*, as is neceſſary for uniting the Rays which come from one Point of the Object, exactly in one Point of the *Retina*. The Impreſſion of the Object is made upon the *Retina*. The *Choroides* is tinctured black, that the Rays of Light which paſs thro' the *Retina*, may not be reflected back again, to confuſe the Image of the Object. Being diſtinct, Viſion conſiſts in the Union of all the Rays which come from one Point of an Object, exactly in one Point of the *Retina*; and that the Rays which come from Objects at different Diſtances are united at different Diſtances, behind the *Cryſtalline* Humour: They cannot both be exactly united upon the *Retina*, therefore the Eye cannot ſee equally diſtinctly, at the ſame time, Objects at different Diſtances. It is for this reaſon that the Globe of the Eye moves ſo quickly, and almoſt continually, and that the Muſcles of the Eyes have ſuch a great Quantity of Nerves to perform their Motions. When the Globe of the Eye is flat, as happens ſometimes in old Age, that the Rays paſs the *Retina* before they unite, in ſuch a caſe there is no diſtinct Viſion; and ſuch as have this Defect, are call'd *Presbytæ*: And if on the contrary the Globe of the Eye be ſo convex as to unite the Rays before they come to the *Retina*, neither is there then any diſtinct Viſion; and ſuch as have this Defect, are called *Myopes*.

F.

F. AT the end of a Preſcription, ſignifies *fiat*, make it up; as *f. Bolus*, make it up into a Bole.

Facies Hippocratica, is when the Noſtrils are ſharp, the Eyes hollow, the Temples low, the Tips of the Ears contracted, the Forehead dry and wrinkled, and the Complexion pale or livid.

Factitious, ſignifies any thing made by Art, in oppoſition to what is the Produce of Nature.

Faculty, is a Power or Ability to perform any Action. Inſtitution-Writers mention three, *viz.* Natural, Vital, and Animal. By the firſt they underſtand that by which the Body is nouriſhed and augmented, or another like it generated: which ſome further divide into three, Nutrition, Growth, and Generation; and the firſt of theſe has alſo by ſome been divided into Attractive, Retentive, Concoctive, and Expulſive: but theſe are Terms that puzzle rather than inſtruct, as they convey no diſtinct Signification. The vital Faculty is that by which Life is preſerved, and the ordinary Functions of the Body performed. And the Animal Faculty is what conducts the Operations of the Mind; as the Imagination, Memory, *&c.*

Fæces, are Excrements; but often made uſe of to expreſs the Ingredients and Settlings after Diſtillation and Infuſion.

Fæculæ, are the Dregs which ſubſide in vegetable Juices, as in that of the Roots of *Bryony*; but theſe are not ſo much uſed in Medicine as formerly.

Falling-Sickneſs. See *Epilepſy.*

Fallopian Tube. See *Generation Parts of*, belonging to Women.

Falx. See *Dura Mater.*

Fames. See *Hunger.*

Fames Canina, Dog-Appetite; is ſuch an inſatiable Hunger, as is not to be ſatisfy'd with Eating, but continues even when the Stomach is full. This is a Caſe much talked of by the Antients, but rarely met with amongſt us. It ſeems to ariſe from fretting ſharp Juices in the Stomach, which by their continual Vellications excite a Senſe like that of Hunger; and is to be conquered by Medicines, and not ordinary Food, ſuch things as the *Teſtacea*, all *Alkalies*, and *Chalybeats.*

Farciminalis. See *Alantois.*

Faſcialis Muſculus. See *Membranoſus Muſculus.*

Fat, is an Oily and Sulphureous Part of the Blood, depoſited in the Cells of the *Membrana Adipoſa*, from the innumerable little Veſſels which are ſpread amongſt them. The Fat is to be found immediately under the Skin, in all the Parts of the Body, except in the Forehead, Eye-lids, Lips, upper Part of the Ear, Yard, and *Scrotum*. In ſome the Veſicles of the *Membrana Adipoſa* are ſo full, that the Fat is an Inch or more thick; and in others they are almoſt flat, containing little or no Fat. There are two ſorts of Fat, one white, or rather yellow, ſoft, and lax, which is eaſily melted, called *Pinguedo*; another white, firm, brittle, and which is not ſo eaſily melted, called *Sebum*, Suet or Tallow. Some reckon the Marrow of the Bones for a third ſort of Fat. Dr. *Grew* takes the Fat of Animals to be a curdling or coagulating of the oily Parts of the Blood, either by ſome of its own ſaline Parts, or by the nitrous Parts of the Air mingled therewith: whence it is that ſome Animals, as Coneys, and Field-Hares, grow fat in froſty Weather, the oily Parts of the Blood being then ordinarily coagulated with a greater abundance of nitrous Salts received from the Air into their Bodies: and for the ſame reaſon it is, that the Fat of Animals is hard; whereas that of Fiſhes is ſoft, and runs all to Oil, becauſe the Water in which they live, hath but few nitrous Parts in it, in compariſon of Air. And this Opinion that learned Perſon ſupported by many Experiments, too long to be inſerted here.

Febrifuge, from *Febris*, a Fever, and *fugo*, to drive away; is any Medicine ſerviceable in a Fever, of what Form ſoever.

Febris. See *Fever.*

Feculæ, the ſame as *Fæculæ*; which ſee.

Femur, the Thigh, includes all between the Buttocks and the Knee; it is thus called from *ferendo*, bearing, becauſe it ſuſtains the whole Animal; more ſtrictly therefore it ſignifies the Thigh-Bone. This is the longeſt of all the Bones in the Body: Its Fibres are cloſe and hard; it has a Cavity in its middle; 'tis a little convex and round on its fore-ſide, but a little hollow, with a long and ſmall Ridge, called *Linea Aſpera*, on its back-ſide. At its upper End it has three *Epiphyſes*, which ſeparate eaſily in Children: The firſt is its Extremity, which is a large and round Head covered with a Cartilage,

tilage, which is received into the *Acetabulum Coxendicis,* wherein it is tied by two Ligaments: the firſt is pretty large, and comes from the Edge of the *Acetabulum*; the ſecond is round and ſhort, it comes from the bottom of the *Acetabulum,* and is inſerted into the middle of the round Head. The Part immediately below this round Head, which is ſmall, long, and a little oblique, is called its Neck. It makes an Angle with the Body of the Bone, by which means the Thighs and Feet are kept at a diſtance from one another, and we ſtand firmer; the *Linea Propenſionis* eaſily falling perpendicular upon any Part of the Quadrangular Space between the Feet. Beſides this Obliquity of the Neck of the Bone, it conduces much to the Strength of the Muſcles of the Thigh, which muſt have otherwiſe paſſed very near to the Center of Motion. The ſecond is called *Trochanter major*; it is a pretty big Protuberance on the external ſide of the Thigh-Bone, juſt at the Root of the Neck: it is rough, becauſe of the inſertion of ſome Muſcles into it. It has a ſmall Dent at its Root, into which the *Muſculi Quadragemini*, and the *Obturatores* are inſerted. The third is called *Trochanter minor*; it is on the hinder ſide of the Thigh-Bone, a little lower, and leſs than the other. Theſe Protuberances mightily increaſe the Force of the Muſcles, by removing not only their Inſertions, but likewiſe the Directions from the Center of Motion. The lower Extremity of the Thigh-Bone, which is articulated with the *Tibia* by *Ginglymus,* is divided in the middle by a *Sinus* into two Heads or Protuberances, the external and the internal, which are received into the upper *Sinus's* of the *Tibia*. Thro' the Space that is between the hind-parts of theſe two Heads paſs the great Veſſels and Nerves, which go to the Leg; becauſe the uppper-end of the Thigh-Bone was articulated by *Arthrodia,* that we might not only move our Legs backwards or forwards, but likewiſe nearer to, and further from one another; therefore its lower Extremity was joined to the *Tibia* by *Ginglymus,* which is the ſtrongeſt Articulation.

Feneſtra. See *Ear.*

Fermentation. It is not eaſy to fix Boundaries to this Term, for under it ſome are for reducing almoſt all that belongs to Phyſick, chiefly as it is a Term that accounts for, in the lump, many *Phænomena*, and ſaves a great deal of trouble, by ſaying ſuch an Effect is occaſioned by *Fermentation.* However it ſo far concerns every one to have ſome juſt Apprehenſion of what this Term ought to expreſs, that we cannot be at too much pains to explain it. Inſomuch as it regards Medicine, and exalting or deſtroying any Properties therein, we cannot have a better Idea of it, than by underſtanding all which concerns the procuring a ſpirituous Liquor from Corn. In the Grain it ſelf muſt lie the Materials of what makes the ſpirituous Part, becauſe nothing elſe is concerned in it but Water; to this purpoſe therefore it is ſoaked juſt ſo long in a Ciſtern of Water, as is ſufficient to looſen or open its natural Texture; after which it is thrown in a Heap, where it is ſuffer'd to lie, till by the Motion of its more fine and volatile Parts, it begins to heat and ſhoot out, as in Vegetation. But to confine theſe Parts from flying off, by too long a continuance of ſuch inteſtine Motion, it is thrown abroad thinner, and expoſed more and more to the Air, till it contracts almoſt a Dryneſs, which is finiſhed by the Kiln, and all its Parts maintained together, but yet in ſuch a lax Condition, as to open and unite with the utmoſt Eaſe with warm or hot Water: for by the Sweetneſs and Conſiſtence of the Wort, and the Lightneſs of the Grains, it is plain that the whole Subſtance of the Kernel is mixed with the Liquor. After this *Apparatus*, to finiſh the Proceſs, and raiſe from it a ſtrong Spirit, the reſt is done by Fermentation: How ſuch inteſtine Motion is mechanically effected, and how it brings forth ſuch a Spirit, may be conceived in this manner, if the Reader be acquainted with theſe Propoſitions, which are demonſtrated in Hydroſtaticks.

Prop. 1. *If a Body be immerſed in any Fluid ſpecifically lighter than it ſelf, it will ſink, but otherwiſe it will emerge and get to the Top.* Prop. 2. *If two equal Bodies, of different ſpecifick Gravities, be immerſed in a Fluid lighter than either of them, the Celerities of their Deſcents will be as their Gravities.* Prop. 3. *If two unequal Bodies, of unequal ſpecifick Gravities, be immerſed in a Fluid lighter than either, the Celerities of their Deſcents will be compounded of their Gravities and Dimenſions together.*

The ſame Laws by which theſe Bodies *deſcend*, hold good in the *Aſcent* of ſuch as are ſpecifically lighter than the Fluid; in all heterogeneous Fluids therefore, the conſtituent Parts of which are not fitted to aſſociate and cohere, ſo as to form what is called an uniform homogeneous Fluid, the heavier may be accounted as ſolid Bodies immerſed in a Fluid ſpecifically lighter, and the lighter Parts, as ſuch Bodies in a Fluid ſpecifically heavier; as it is to be demonſtrated, *That the component Parts of all Fluids, ſeparately conſidered, are ſolid.* This Liquor therefore called *Wort*, or a *Decoction of Malt*, may be conſidered as ſuch a heterogeneous Fluid whoſe Parts cannot be interchanged in their Poſitions, until each has obtained ſuch an Elevation as correſponds to its proper Gravity: but leſt this alone ſhould fail of the Intention, by not being ſufficient to break thoſe *Moleculæ* and Viſcidities which entangle the ſpirituous Parts, and likewiſe to prevent their flying off at the Surface, ſome Portion of an already fermented Subſtance is mixed with it. This Subſtance, termed Barm or Yeaſt, conſiſts of a great Quantity of ſubtile ſpirituous Particles, wrapped up in ſuch as are viſcid; now when this is mixed with ſuch a Liquor, it cannot but much contribute to that inteſtine Motion which is occaſioned by the Intercourſe and Occurſions of Particles of different Gravities, as the ſpirituous Particles will be continually ſtriving to get up to the Surface, and the viſcid ones continually retarding ſuch Aſcent, and preventing their Eſcape. So that by theſe two concurring Cauſes, the Particles extracted from the Grain will by ſuch frequent Occurſions be ſo comminuted, as continually to increaſe the more ſubtile and ſpirituous Parts, until all that can be made ſo by Attrition are ſet looſe from their former viſcid Confinements; and this appears by the Warmth of the Liquor, and the Froth drove to the Top: juſt at which time, if it be thrown into the Still, it affords ſome Quantity of a high inflammable Spirit. Moderate Warmth much haſtens this Proceſs, as it aſſiſts in opening the Viſcidities in which ſome ſpirituous Parts may be entangled, and unbends the Spring of the included Air, which cannot but much contribute to the Rarefaction and Comminution of the whole. The viſcid Parts which are raiſed to the Top, not only on account of their own Lightneſs, but by the continual Efforts and Occurſions of the Spirit to get uppermoſt, both ſhew when the Fermentation is at the higheſt, and prevent the finer Spirits making their Eſcape: for if this inteſtine *Luctus* be permitted to continue too long, a great deal will get away, and the remaining grow flat, and vapid, and raiſe little beſides Phlegm in the Still.

This may give ſufficient light into all that concerns fermenting Vegetables, or any other proper Subſtances, in order to draw out their medicinal Efficacies; and hence likewiſe from the natural Textures and Coheſions of Bodies under this Management, it may be known how to order the whole, as thoſe of a looſer Texture will require the leaſt opening by ſuch means. But the greateſt Uſe of this Theory will be in teaching what Parts of the *Materia Medica* are moſt properly brought under this Procedure; and alſo how ſuch inteſtine Motion does in ſome things deſtroy their Virtues: for as by ſome Medicines an Intention is aimed at which is not to be procured but by their being ſpirituous, whereas in others the very contrary Property is required; in ſuch Caſes therefore, when by any adventitious Cauſe thoſe Medicines get into a Ferment, they are deſtroy'd, and ſhould not be adminiſtred.

There are other Species of Fermentation which occur often in Chymiſtry, not to be accounted for but from the Elaſticity and attractive Powers of the Bodies concerned therein: For Particles which are intirely Elaſtick, recede from one another after they have met, with the ſame Celerity they had before they met. In Particles therefore of this kind, a new Degree of Motion will be acquired after every congreſs, and the conflict will be more violent: ſo that at length their *Impetus* and Moment will be ſo great, as to break and deſtroy the hardeſt Bodies. And ſince this Force of Elaſticity is attended with that of Attraction too, the Motion will increaſe yet to a greater Degree; for the *Impetus* of a Particle which is reflected againſt another endu'd with an attractive Force, is continually augmented by the Repercuſſion. Particles thus agitated, endeavour to drive out and exclude all the Air which is contained in their Pores; and the Air being rarefy'd by this Colliſion, ſo as that it cannot upon the account of its Levity keep its former Place, carries up with it thoſe Globules of Water, which incloſed it, to the Surface, and there forms Bubbles. If this Motion increaſes to a very high degree, it raiſes an Effervescency and Heat, which is nothing elſe but a more rapid Motion of Parts, produced by their mutual Attrition. And that we may the better conceive this, let us examine how an Effervefcence is produced by mixing of different Liquors, as Water for inſtance, and Oil of Vitriol. In this Oil there is ſuch an abundance of Salts, that they ſeem to be placed cloſe to one another; and upon this account, becauſe the Attraction is diffuſed equally every way, they continue as it were in an *Æquilibrium*: but when the Water is poured upon it, the Contact of the Salts is taken away, and the Attraction becomes unequal. Theſe

Salts, according to their natural Propenſity, ſtrive to unite again; and ſince by reaſon of the Quantity of Matter they contain, they attract one another more than they do the Water, they diſplace the Water, and force it out of their Intervals, until ſuch time as the Oil is diluted every where alike, and then the Fermentation ceaſes. But if the Salts are Elaſtick, which is very probable, they will not only ruſh upon one another with violence, but after the Stroke recoil, and move in a contrary Direction: from hence proceeds the reciprocal Fluctuation of Parts, which is obſervable every way, and at length an Effervelcence. And thus that kind of Fermentation, uſually aſcribed to an imaginary Antipathy, is to be mechanically accounted for.

In all this, both an attractive and an elaſtick Force are neceſſary Aſſiſtants, and all the Varieties of Fermentation are owing to the different Degrees of them. Hence it is, that often new Bodies ariſe during Fermentation, for the former Texture is entirely deſtroyed by the continual Colliſion of Parts: And hence thoſe great Changes which are ſeen in Bodies under a State of Corruption, which is accounted only a Species of Fermentation. But with all theſe Requiſites to this inteſtine Motion of Bodies, very little thereof can take place in circulating Liquors. How much ſoever therefore this Term is made uſe of to account for ſeveral Appearances in Animals, it muſt be from mere Ignorance, or on purpoſe to deceive: For thus far only can their Juices be capable of Fermentation, as they are remitted in their circulatory Motions enough to make the natural Attractions of their Particles greater than the Force by which they are impelled, which cannot be but where they are almoſt entirely ſtopp'd. In the larger Glands then the ſeparated Juices may undergo ſome Motions of this kind, ſo as ſometimes to be changed thereby from their natural Properties; but the Blood, while in its due Circulation, cannot be under ſuch Influence, becauſe the Velocity of its Parts, from the impelling Force, is too great to let them obey their Attractions of one another. How remote then muſt thoſe Reaſonings be from the Truth, that are built upon ſuch a Foundation? And how hazardous muſt a Practice be, that flows from ſuch a fallacious Theory?

Fever, is an augmented Velocity of Blood. The almoſt infinite Variety of Cauſes of this Diſtemper, does ſo diverſify its Appearances, and indicate ſo many ways of Cure, that our room here will not allow of any more than to refer to *Bellini* and *Cheyne* for the Theory, and *Riverius*, *Willis*, and *Morton* for the Practice, in all its ſhapes.

Fibra Auris. See *Ear*.

Fibre, is an animal Thread, of which there are different kinds; ſome are ſoft, flexible, and a little Elaſtick; and theſe are either hollow like ſmall Pipes, or ſpongious and full of little Cells, as the nervous and fleſhy Fibres: others are more ſolid, flexible, and with a ſtrong Elaſticity or Spring, as the membranous and cartilaginous Fibres; and a third ſort are hard and flexible, as the Fibres of the Bones. Now of all theſe ſome are very ſenſible, and others deſtitute of all Senſe; ſome ſo very ſmall as not to be eaſily perceived; and others, on the contrary, ſo big as to be plainly ſeen; and moſt of them, when examin'd with a Microſcope, appear to be compoſed of ſtill ſmaller Fibres. Theſe Fibres firſt conſtitute the Subſtance of the Bones, Cartilages, Ligaments, Membranes, Nerves, Veins, Arteries, and Muſcles. And again by the various Texture, and different Combination of ſome or all of theſe Parts, the more compound Organs are framed; ſuch as the Lungs, Stomach, Liver, Legs, and Arms, the Sum of all which make up the Body. As for that particular Property of Elaſticity, or a Power of Contraction after the diſtractile Force is removed, upon which the Knowledge of the Animal Mechaniſm ſo much depends, too much pains cannot be takan for rightly underſtanding it. It is well known that any Membrane or Veſſel may be divided into very ſmall Fibres or Threads, and that theſe Threads may be drawn out into a very conſiderable Length without breaking; and that when ſuch external Force is removed, they will again reſtore themſelves to their proper Dimenſions. It is further alſo manifeſt, that this Property is preſerved to them by a convenient Moiſture, becauſe if one of thoſe Threads be dried, it immediately looſes it, ſo that upon the application of any Force to ſtretch it, it will break; as alſo will its lying ſoaked in Liquor too much render it flaccid, and deſtroy all its Power of Reſtitution when diſtended. Now ſome Hints of that Configuration of Parts upon which this Property depends, may be had from the Contrivance and Properties of a Syringe, with the Reaſons why it is ſo difficult to draw back the *Embolus*, when the Pipe is ſtopped; and the neceſſity of any Liquors following it, wherein the Pipe is immerſed. All that is neceſſary to this Contrivance, is, that the *Embolus* be ſo exactly adapted to the inner Surface of the Barrel, as to prevent any Air paſſing between them when it is drawn up; that it matters not what Figure the Barrel is of, ſo that the *Embolus* is well fitted to it. It eaſily therefore might be contrived to make a Caſe of Syringes, wherein every Barrel may alſo ſerve as an *Embolus* to its Exterior, which immediately includes it. And in this manner it is not at all difficult to imagine a continued Series of Particles ſo put together, that the inner may be moved and drawn upon one another, without ſuffering the Air immediately to enter into the Interſtices made by their Diſtraction; whereupon, as ſoon as that Force which drew them is removed, they will for the very ſame reaſon as the *Embolus* of a Syringe ruſh up again into their former Contacts: As ſuppoſe *A* and *B*, Fig. 1. two Particles touching one another in *e f*, and *C D* two others, covering on the oppoſite ſides their Contacts. It is alſo to be ſuppoſed that on the other ſides they are covered with other Particles in the ſame manner as by *C D*, ſo that the Places of their Contacts are on all ſides cover'd from the Air, or the inſinuation of any fluid Body. Wherefore if *A B* by an external Force, greater than that of their Coheſion, be drawn from each other as far as *G I* and *H K*, in Fig. 2. as ſoon as that Force is removed, they will again run into their former Contacts in *e f*, Fig. 1. that is, if they are not ſo far as to bring their tranſverſe Surfaces to coincide with *C* and *D*; for then the Air, or circumambient Fluid, will interpoſe, and prevent their reunion: ſo that by this Contrivance, ſo much of *A* and *B* as is incloſed by other

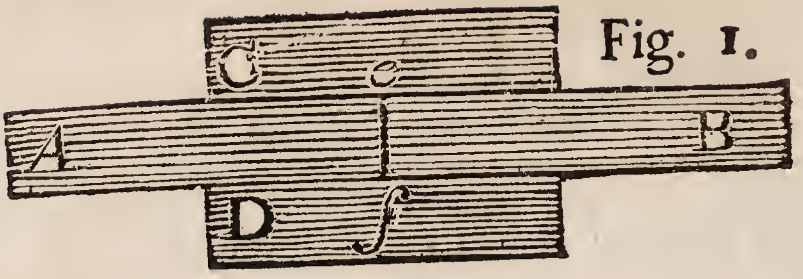


Fig. 1.

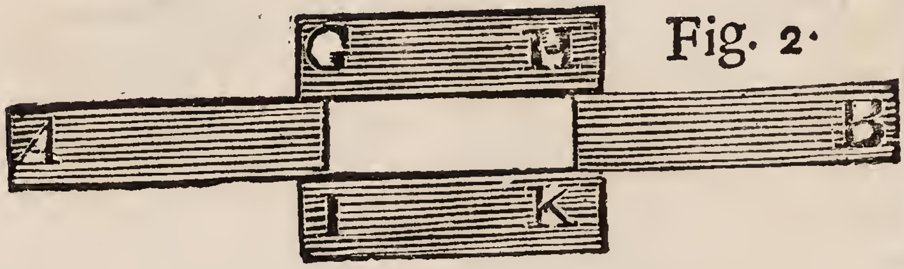


Fig. 2.

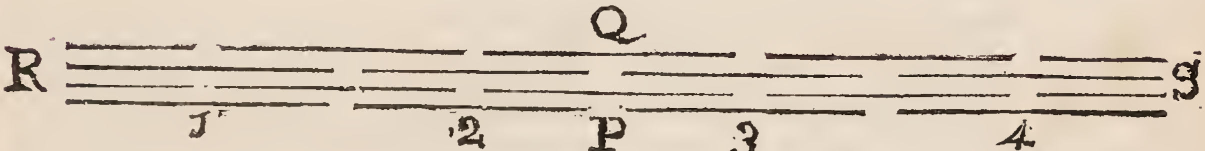
other ſurrounding Particles, is as the *Embolus* of a Syringe, and the Particles ſurrounding them as its Barrel: and therefore when *A* and *B* are diſtracted from their Contacts in *e f*, it will be with ſome difficulty; and when the diſtracting Force is taken away, they will again run up into their former Contacts, juſt as the *Embolus* of a Syringe, and for the ſame reaſon. It is not rigidly contended, that this muſt exactly be the Contexture of a Fibre, but only ſomething like this, whereby the Interſtices of the interior Orders are covered by the exterior in ſuch a manner, that when the Thread is diſtended, that is, when its conſtituent Parts are drawn from their tranſverſe Contacts, neither the Air, nor any other external Fluid, can get between them, ſo as to hinder their re-union, as ſoon as ſuch Force is withdrawn; that is, if their diſtraction, as was before ſaid, be not ſo far to bring their tranſverſe Surfaces to a coincidence with one another; for then the circumambient Fluid will interpoſe, that is, the Thread will be broke.

But beſides this peculiar Arraignment of a determinate Set of Particles to the compoſe main Subſtance of an animal Fibre, endowed with the Properties above-mentioned, it ſeems not at all unreaſonable to conjecture, that into their Compoſicion alſo enters a common *Capſula* or Covering, which aſſiſts in the wrapping up and holding together thoſe *Faſciculi*, or Series of Particles already deſcribed, not much unlike the *Perioſteum* of the Bones; the Contexture of which Covering, reſembling that of a Net, cannot any ways hinder either the tranſverſe or longitudinal Diſtractions of the other Parts.

Suppoſing this then to be the Contexture of a Fibre, it well be neceſſary to conſider what further Requiſites are needful to put them into that State which they are in, in a living Body, to ſhew how they are maintained in continual Motion, and what are the Conſequences of it. I. And firſt, it is neceſſary to take notice, that all the Fibres in a living Body are in a State of Diſtenſion, that is, they are drawn out into a greater length than they would be in, if ſeparated from any Part, and taken out of the Body; which is demonſtrable upon any

Solutio Continui, as in the tranſverſe Diviſion of a Nerve or Artery; for immediately the divided Parts run up, and leave a great diſtance between them, and the Fluids contained between them upon ſuch Contraction, to be ſqueezed out. And this alſo makes it appear that their natural Diſtractions are owing to ſome Fluids being propelled into the Veſſels which they compoſe, with a Force greater than their endeavours of Reſtitution, ſo far as to obtain a cloſe Contact of all their tranſverſe Surfaces, but yet leſſer than that which is neceſſary to diſtract them, ſo as to bring them into a coincidence, for then the Veſſels would break. II. Next then this State of Diſtraction muſt neceſſarilly leave *Vacuola* between all the tranverſe Surfaces, as between *G I* and *H K*, in *Fig.* 2. and may be repreſented by the ſeveral Series of Particles in *Fig.* 3. which *Vacuola* will continue as long as the longitudinal Surfaces of its component Parts continue ſo cloſe to one another, as to prevent the Inſinuation of any foreign Matter, how ſubtile ſoever, between them. For the ſame reaſon therefore as when the *Embolus* of a Syringe is drawn, and the Pipe is ſtopped, there muſt be continually a *Niſus Reſtituendi*, or an Endeavour of Contraction; there is alſo this further neceſſity of their being continued in a State of Diſtraction, becauſe if they were cloſely to touch one another in all Parts, they could not be put into and continue in thoſe undulatory Motions which they are always in, in a living Body, without being alter'd in their Figures and Contextures. III. But it being manifeſt that all the animal Fibres are continued by the perpetual ſucceſſive Impulſe of the Fluids, in ſuch undulatoty Motions, beſides this Neceſſity of their Diſtraction, they alſo muſt be continually moiſtened with ſome convenient Fluid, becauſe otherwiſe their continual Attritions againſt one another would wear them out, as well as render it difficult to move them. The Fluid alſo for this purpoſe muſt be very ſoft and ſubtile, becauſe otherwiſe it cannot be inſinuated into all the Interſtices of the Fibres, without ſo far ſeparating their Parts, as is inconſiſtent with that Contexture and Mechaniſm here laid down.

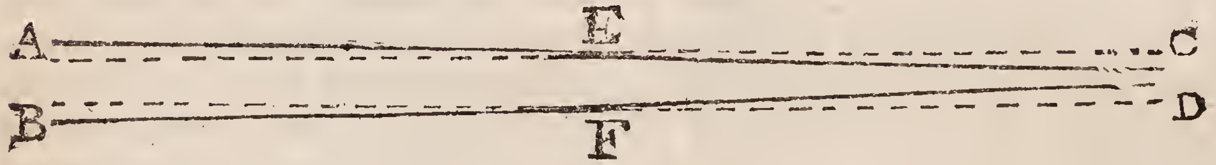
Figure 3.



Upon this View there ariſes a very natural Explication of ſeveral Terms much uſed by mechanical Writers; ſuch as Diſtraction, Contraction, Vibration, Undulation, Tonick Motion, Concuſſion, Relaxation, Corrugation, and Elaſticity of the Solids; all which are but different ways of expreſſing the various Modifications and Diſpoſitions of thoſe *Machinulæ* with which all the Fibres are compoſed.

Thus far then being granted about the Contexture of a Fibre, and the Requiſites for its Office, it is then to be conſider'd how it comes firſt to be ſet in Motion, and by what Mechaniſm it is afterwards carried on. Suppoſe then the Fibre, *Fig.* 3. in ſuch a State of Diſtraction as before-mention'd; it is certain, by *Req.* II. that in all Parts there is a *Niſus Reſtituendi* : Where then any external Impulſe is made againſt it from *R* to *S* ſucceſſively thruſting it from *P* towards *Q*; it is certain that againſt 1, for inſtance, the Thread will be more diſtracted there than in any other Part, and thereby will there be a greater Endeavour of Reſtitution. And therefore the Impulſe paſſing on towards *S*, all the conſtituent *Machinulæ* 1, 2, 3, 4, will ſucceſſively move after one another. But to make this Matter ſtill more plain, let a Portion of an Artery be repreſented by *Fig.* 4. thro' which the Blood is continually propelled in a Direction parallel to its Axis, nothing is more certain than that if it were not for the Reſiſtance of the Sides of the Artery at *E F*, the Blood ſetting out at *A B* would go on by the pricked Lines *C D*, and therefore it cannot but ſtrike againſt the ſides of the Artery at *E F*, and diſtract them there more than any where elſe, whereby their endeavours of Reſtitution will be there the greateſt : and therefore when the Impulſe of the Blood has raiſed them to a certain meaſure, wherein their endeavours of Reſtitution will exceed the Impulſe that raiſed or diſtracted them, their contractile Powers will draw them again into the ſame Dimenſions, and conſequently the Blood will be thruſt forward into the next Section of the Artery, and ſo on ſucceſſively from one to another thro' the whole Courſe of its Circulation; the Contraction of one Section of an Artery being the true Cauſe of the Blood's Impulſe againſt and raiſing the next. The moſt natural Conſequence of this Motion will be breaking ſtill ſmaller the Parts of that Fluid, which by *Req.* III. is diſpenſed to lubricate and facilitate their Motions; which Comminution will continue till it is render'd ſo fine, as to fly off at the Surface, whenever it happens to get there : and that which thus inſenſibly flies off is the true *Materia Perſpirabilis* of *Sanctorius* ; and before it is ſo broke, and ſerves for the Purpoſes afore-mentioned, it is that which is to be underſtood by the common Terms of animal Spirits, or Oil, *Liquidum Nervoſum*, *Succus Nervoſus*, the nervous Fluid or Juice, and the like. Any thing elſe denominated a Spirit in a human Body, that is not ſubject to mechanical Laws, belongs to another Order of Men to explain; and lies quite out of the reach of that Reaſon, which a Phyſician is compelled to take up with for his Guide.

Figure 4.



Fibula, the outer and leſſer Bone of the Leg; it is alſo called *Foſſile minus*; it is much ſmaller than the *Tibia*, yet not ſhorter. It lies on the outſide of the Leg; and its upper-end, which is not ſo high as the Knee, receives the lateral Knob of the upper-end of the *Tibia*, into a ſmall *Sinus* which it has in its inner ſide. Its lower end is received into the ſmall *Sinus* of the *Tibia*, and then it extends into a large Proceſs, which forms the outer Ankle, embracing the external Side of the *Aſtragalus*. The *Tibia* and *Fibula* touch not one another, but at their Ends. The Space which they leave in their middle is filled up by a ſtrong membranous Ligament, and ſome Muſcles which extend the Feet and Toes.

Fici, there are ſeveral Excreſcencies, ſuch as thoſe about the Fundament, in Perſons ſubject to the Piles, or infected with the venereal Diſeaſe, which are thus called by Surgeons.

Fidicinales, is a Term applied by Mr. *Cowper* and ſome other Anatomiſts to thoſe Muſcles of the Fingers called alſo *Lumbricales*, from the uſe they are put to by Muſicians in playing upon ſome Inſtruments.

Filaments, are little Threads, Strings or Fibres of any thing.

Filtration. This is a Method by which Liquors are procured fine and clear, and is chiefly concerned in Tinctures, when ſome Portion is drawn from the Ingredients, or ſuſpended in the Tincture, which is not neceſſary thereunto, but diſturbs and renders the reſt unpleaſant both to the Palate and Sight. The Filtration in uſe is ſtraining a Liquor thro' Paper, which by the Smallneſs of its Pores admits only the finer Parts thro', and keeps the reſt behind. There is another Filtration, which as much tortured the Philoſophy of ſome Ages to account for; and is performed by the Aſcent of the finer Parts of a Liquor up a Cord, or Skain of Cotton, or ſuch like Matter, which is contrived to drop over into another Veſſel, and leave the groſſer behind. Some ſay that the Cauſe of this Aſcent, is becauſe the Liquor ſwells thoſe Parts of the Filtre that touch it, by entring into the Pores of the Threads which compoſe it, whereby they riſe up, touch and wet thoſe next above them; and theſe again the next Threads, and ſo on to the Brims of the Veſſel, when the Liquor runs over, and deſcends in the other Part of the Filtre, which hangs down by its own natural Gravity. But this is liable to many Objections, eſpecially that of Liquors riſing in Glaſs Tubes, much above the Surface of that into which they are immerſed, where the Glaſs cannot be imagined thus to ſwell. Others think this Aſcent more probably to be, becauſe every Filtre being compoſed of a great Number of long, ſmall, ſolid Bodies, which lie very cloſe together, the Air getting in between them, loſes much of its Preſſure, and cannot gravitate there ſo ſtrongly as it doth on the Fluid without them; wherefore the Parts of the Water between the Threads of the Filtre muſt be preſſed upwards, and aſcend till they come ſo high, as by their Weight to counterballance the general Preſſure on the other parts of the Surface of the Water. See *Diſpenſatory*.

Fimbriæ. The Extremities or Borders of the *Tubæ Fallopianæ* were formerly thus called, ſignifying a fringed Border, which that reſembles.

Fingers. See *Digitus*.

Fire. See *Heat*.

Fire, *Circulatory* or *Reverberatory*; is a Chymical Furnace, where the Heat goes not out by a direct Funnel, but is returned upon the Veſſel, or Matter to be managed by it.

Fire, Potential, the ſame as *Cauſtick*; which ſee.

Firmneſs. This Property in all Bodies muſt be as the Surfaces and Contacts of their component Parts: And thus that Body whoſe Parts are moſt firm in themſelves, and are by their peculiar Shapes capable of the greateſt Contacts, is the moſt firm, and that which has Parts very ſmall, and capable of the leaſt Contact, will be moſt ſoft. In the former the greateſt Requiſite is to be as near the Cubes as poſſible, and in the latter to Spheres. And in the ſame manner are to be accounted for, not only all the intermediate Degrees between the moſt firm and the moſt ſoft Bodies, but thoſe different Conſiſtences which are diſtinguiſhed by other Names, as friable, tenacious, glutinous, and the like; for the greater are the Solidities or Firmneſs of the component Parts of any Body, in proportion to their Surfaces, tho that Body by the Aptitude of their Contacts may be what we call very hard, yet it will be the moſt friable or brittle. And where the Surfaces of the compounding Particles are much extended upon a ſmall Quantity of Matter, the Bodies they compoſe, tho they may be light and ſoft, yet they will be tenacious or glutinous; for altho the Flexibility of their compounding Parts admits of their eaſy Change of Figure by any external Force, yet by their touching one another in ſo many Points, they are very difficultly ſeparated. The former is the Caſe of cryſtallized Salts, Reſins, and the like; the latter of Turpentines, Gums, and all of that Tribe. For further underſtanding herein, ſee *Coheſion* and *Solidity.*

Fiſſure, from *findo,* to cleave, is any Crack or Slit. In natural Philoſophy this Term is frequently uſed for thoſe Diviſions between Layers of different kinds of Earth or Stone. And in Anatomy, Surgeons uſe it for the longitudinal Fractures of Bones.

Fiſtula, is any kind of Pipe; and therefore ſome Anatomiſts call many Parts that have any Reſemblance thereto in their Figure, *Fiſtulæ*; as the *Aſpera Arteria, Fiſtula Pulmonis,* the *Urethra, Fiſtula Urinaria,* &c. But its moſt common Uſe is for Ulcers that lie deep, and ouze out their Matter thro' long, narrow, winding Paſſages; in which Caſes the Bones are frequently foul, and the extreme Parts callous.

Fixation, is a Term uſed by Chymiſts to expreſs the reducing a fluid Body into a fixed one; as Quickſilver, by a Mixture of Lead, *&c.*

Flammula Vitalis. Some have entertained very fine ſpun Notions under this Term; but we can make no more plain Senſe out of all the Conceits upon this Head, than that natural Warmth which is the Effect of a circulating Blood, and which therefore is always as its Velocity.

Flatulent Tumours, are ſuch as eaſily yield to the Preſſure of the Finger, but readily return, by their elaſticity, to a tumid State again. Theſe are ſo light as ſcarce to be felt by the Patient, and are no otherwiſe incommodious than by their Unſightlineſs or Bulk.

Flatus, is Wind gathered in the Bowels, or any Cavities of the Body, cauſed by Indigeſtion, and a groſs internal Perſpiration, which therefore is diſcuſſed by warm Aromaticks, and rarefy'd enough to break away, wherever vent can be found.

Flexor Brevis, the ſame as *Perforatus*; which ſee.

Flexor Carpi Radialis. See *Cubitæus Internus.*

Flexor Carpi Ulnaris. See *Radiæus Internus.*

Flexores Pollicis. There are two of theſe Muſcles; the firſt ariſes from the internal Exuberance of the *Humerus,* and from the middle and inner Part of the *Radius,* by two different Orders of fleſhy Fibres; and paſſing under the *Ligamentum Annulare,* its Tendon is inſerted into the third Bone of the Thumb. The ſecond ariſes from the Bones of the *Carpus* from the annular Ligament, and is inſerted into the ſecond Internode of the Thumb.

Flexor Pollicis Pedis longus, ariſes from the upper and back-part of the *Fibula,* and paſſing behind the inner Ankle, is inſerted into the laſt Bone of the great Toe.

Flexor Pollicis Pedis brevis, ariſes from the *Os Cuneiforme Medium,* and is inſerted into the *Oſſa Seſamoidæa* upon the ſecond Joint of the great Toe.

Fleſh. See *Caro.*

Flowers, in Chymiſtry, are the moſt ſubtile Parts of dry Bodies, which riſe by Fire to the Top of Veſſels made on purpoſe to receive them; as the Flowers of Sulphur, Benjamin, *&c.*

In Botany, ſuch are reckoned perfect Flowers, which have *Petala,* a *Stamen, Apex,* and *Stylus*; and whatever Flower wants either of theſe, is reckoned imperfect. Perfect Flowers are divided into ſimple ones, which are not compoſed of other ſmaller ones, and which uſually have but one ſingle Style; and compounded, which conſiſt of many *Floſculi,* all making but one Flower. Simple Flowers are *monopetalous,* which have the Body of the Flower all of one entire Leaf, tho ſometimes cut or divided a little way into many ſeeming *Petala,* or Leaves; as in Borrage, Bugloſs, *&c.* Or, *Polypetalous,* which have diſtinct *Petala,* and thoſe falling off ſingly, and not all together, as the ſeeming *Petala* of the *Monopetalous* Flowers always do. Both thoſe are further divided into uniform and difform Flowers: The former have their right and left hand Parts, and the forward and backward Parts all alike; but the Difform have no ſuch Regularity, as in the Flowers of Sage, Dead-nettle, *&c.* A *monopetalous* difform Flower is likewiſe further divided into, 1. *Semifiſtular,* whoſe upper-part reſembles a Pipe cut off obliquely, as in the *Ariloſtochia.* 2. *Labiate:* and this either with one Lip only, as in the *Acanthum* and *Scordium*; or with two Lips, as in the far greater part of the *Labiate* Flowers. And here the upper Lip is ſometimes turned upwards, and ſo turns the convex Part downwards, as in the *Chamæciſſus,* &c. but moſt uſually the upper Lip is convex above, and turns the hollow Part down to its Fellow below, and ſo repreſents a kind of Helmet, or Monk's Hood. And from thence theſe are frequently called *Galeate, Cucullate,* and *Galericulate* Flowers; and in this Form are the Flowers of the *Lamium,* and moſt *Verticillate* Plants. Sometimes alſo the *Labium* is entire, and ſometimes jagged or divided. 3. *Corniculate,* i. e. ſuch hollow Flowers as have on their upper-part a kind of Spur, or little Horn; as in the *Liniaria, Delphinum,* &c. And the *Carniculum,* or *Calcar,* is always impervious at the Tip or Point, Compounded Flowers are either, 1. Diſcous or Diſcoidal, that is, whoſe *Floſculi* are ſet together ſo cloſe, thick and even, as to make the Surface of the Flower plain and flat; which therefore becauſe of its round Form will be like a *Diſcus*: which *Disk* is ſometimes radiated, when there is a Row of *Petala* ſtanding round in the *Disk* like the Points of a Star, as in the *Matricaria, Chamæmelum,* &c. and ſometimes naked, having no ſuch radiating Leaves round the Limb of its *Disk*; as in the *Tanacetum.* 2. *Planifolious*, which is compoſed of plain Flowers ſet together in circular Rows round the Centre, and whoſe Face is uſually indented, notched, uneven and jagged; as the *Hieracia, Sonchi*, &c. 3. *Fiſtular*, which is compounded of many long, hollow, little Flowers, like Pipes, all divided into large Jags at the ends. Imperfect Flowers, becauſe they want the *Petala*, are called *Stamineous, Apetalous,* and *Capillacious.* And thoſe which hang pendulous by fine Threads like the *Juli*, are by *Tournefort* called *Amentacious*; we call them *Cats-tails.* The Term *Campaniformis* is uſed for ſuch as are in the Shape of a Bell, and *Infundibuliformis* for ſuch as are in the Form of a Funnel.

Fluidity. This is a Property ariſing from the Smallneſs of the conſtituent Particles of Bodies, and their Diſpoſition to Motion from the Sphericity of their Figures, whereby they can eaſily ſlide over one another's Surfaces all manner of Ways, and can touch but in few Points. Mr. *Boyle*, in his Hiſtory of Fluidity, enumerates ſeveral Requiſites thereunto, and gives many curious Experiments in confirmation of his Conjectures: As does alſo Dr. *Hook* in his *Micrographia.* But the corpuſcular Philoſophy ſeems defective in explicating this great *Phænomenon*, without recourſe to the true Cauſe of the various Agitations and Motions of the Particles of Fluids, aſſigned by Sir *Iſaac Newton*: who, as he lays it down for a primary Law of Nature, that all Particles of Matter do attract one another when they come within a certain Diſtance; ſo he alſo conjectures, that at all greater Diſtances they do fly away from, and avoid one another. For then, tho their common Gravity may keep them together in a Maſs, together with the Preſſure of other Bodies upon them; yet their continual Endeavour to avoid one another *ſingly*, and the adventitious Impulſes of Light, Heat, or other external Cauſes, may make the Particles of Fluids continually move round about one another, and ſo produce this Quality. There is a Difficulty indeed in accounting why the Particles of Fluids always keep at ſuch a diſtance from one another, as not to come within the Sphere of one another's Attraction. The Fabrick and Conſtitution of that fluid Body of Water is wonderfully amazing; that a Body ſo very rare, and which has ſuch a vaſt Overproportion of Pores, or interſperſed Vacuity, to ſolid Matter, ſhould yet be perfectly incompreſſible by the greateſt Force. And yet this Fluid is eaſily reducible into that firm, tranſparent, friable Body, which we call Ice, by being only expoſed to a certain Degree of Cold. One would here think that tho the Particles of Water cannot come near enough to attract each other; yet the intervening frigorifick Matter doth, by being mingled *per minima*, ſtrongly attract them, and is it ſelf likewiſe ſtrongly attracted by them, and ſo wedges or fixes all the Maſs into a firm ſolid Body; which ſolid Body loſes its Solidity again, when by Heat the *Vinculum* is ſolved, and the frigorifick Particles are disjoined from thoſe of the Water, and are forced to fly out of it. And juſt thus may the Fumes of Lead perhaps fix Quickſilver. When a firm ſolid Body, ſuch as a Metal, is by Heat reduced into a Fluid, the Particles of Fire disjoin and ſeparate its conſtituent Parts, which mutual Attraction cauſed before to cohere, and keep them at ſuch a diſtance from one another, as that they are out of the Sphere of each other's Attraction as long as that violent Motion laſts; and when by their Lightneſs and Activity they are flown off, unleſs they be renewed by a continual Supply, the component Particles of the Metal come near enough again to feel one another's Attractions. As therefore the Cauſe of Coheſion of the Parts of ſolid Bodies appears plainly to be their mutual Attraction; ſo the chief Cauſe of Fluidity ſeems to be a contrary Motion impreſſed on the Particles of Fluids, by which they avoid and fly one another, as ſoon as they come at, and as long as they keep ſuch a diſtance from each other. It is obſerved alſo in all Fluids, that the Direction of their Preſſure againſt the Veſſels that contain them, is in Lines perpendicular to the Sides of ſuch Veſſels; which Property being the neceſſary Reſult of the Particles of any Fluids being Spherical, it ſhews that the Parts of all Fluids are ſo, or of a Figure very nearly approaching thereunto. As this is a very neceſſary *Præcognitum*, ſee further under *Hydroſtaticks*, and *Glands* in general.

Fluor, is a philoſophical Term uſed to ſignify the actual State of Fluidity of Bodies, whilſt their Parts are kept in Motion by Fire, or any other Agent.

Fluor Albus, is a Diſtemper common to the Female Sex, called by them the *Whites*. It ariſes from a Laxneſs of the Glands of the *Uterus*, and a cold pituitous Blood, that, inſtead of the menſtrual Diſcharges, iſſues out a ſlimy yellowiſh Matter, not much unlike the running of a *Gonorrhœa*, and which it is ſo near a-kin to, as hardly to be diſtinguiſhed; and ſometimes is attended too with ſuch a Sharpneſs, as to make it dangerous to Men to have any venereal Intercourſe with them at thoſe times. The Cure is much the ſame as in a *Gonorrhœa*, and requires deterging and ſtrengthening; to both which Purpoſes moſt of the Turpentines are conducive, eſpecially after due Evacuation. This is alſo by ſome Writers called *Fluor Muliebris*, and *Uterinus*.

Fluxion, is uſed by the Chymiſts in the ſame ſenſe as *Fuſion*; and ſignifies running any Metals or other Bodies into a Fluid, by Fire or otherwiſe. It alſo ſignifies the ſame as Defluxion, or a Catarrh, from *fluo*, to flow. For which reaſon likewiſe *Fluxus Alvinus* is a *Diarrhœa*; *Fluxus Hepaticus*, a *Dyſentery*, from the Contents of the Stools, and the like.

Fluxion of Humors. See *Collection of Humours.*

Focile Majus. See *Ulna*, and *Tibia.*

Focile Minus. See *Radius* and *Fibula.*

Focus, from its ſignifying a Hearth, or Fire-Place, ſome have made uſe of it to expreſs the Seat of a Fever, or ſome other Diſtempers. In Opticks it is the Point of Convergence or Concourſe, where the Rays meet and croſs the Axis after their Refraction or Reflexion.

Fodina: The Labyrinth in the Bone of the Ear is thus called.

Fœtus, the Child in the Womb is thus called after it is perfectly formed; before that it being called *Embryo*. The *Fœtus* when formed is almoſt of an oval Figure, whilſt it lies in the Womb, for its Head hangs down with its Chin upon the Breaſt; its Back is round; with its Arms it embraces its Knees, which are drawn up to its Belly; and its Heels are cloſe to its Buttocks, its Head upwards, and its Face is towards its Mother's Belly: But about the ninth Month, its Head, which was always ſpecifically lighter than any other Part, becomes ſpecifically heavier, its Bulk bearing a much ſmaller Proportion to its Subſtance than it did, and conſequently it muſt tumble in the Liquor which contains it; ſo its Head falls down, its Feet get up, and its Face turns towards its Mother's Back: But becauſe then it is in an irkſome, tho favourable Poſture for its Exit, the Motion it makes for its Relief, gives frequent Pains to its Mother, which cauſes a Contraction of the Womb, for the Expulſion of the *Fœtus*. When the Child preſents in any other Poſture, it ſhould be carefully put back again, and, if poſſible, turn'd the right way: If that can't be done, it ſhould be brought away by the Feet. See *Conception*.

Foliation, is one of the Parts of the Flower of a Plant, being the Collection of thoſe fugacious colour'd Leaves (called *Petala*) which conſtitute the Compaſs of the Flower; and alſo ſometimes to ſecure and guard the Fruit which ſucceeds the Foliation, as in Apples, Pears, *&c.* and ſometimes ſtands within it, as in Cherries, Apricocks, *&c.* for theſe being of a very tender and pulpous Body, and coming forth in the colder Parts of the Spring, would be often injur'd by the Extremities of Weather, if they were not thus protected, and lodged up within their Flowers.

Follicule, a Term in Botany, ſignifying the Seed-Veſſel, *Capſula Seminalis*, or Caſe which ſome Fruits and Seeds have over them; as that of the *Alkekengi, Pedicularis*, &c.

Folliculus Fellis. See *Veſica Biliaris*.

Fomentation, is a ſort of partial Bathing, called alſo Stuping, which is applying hot Flannels to any Part, dipped in medicated Decoctions, whereby the Steams breathe into the Parts, and diſcuſs obſtructed Humours.

Fontinella, or *Fonticulus*, ſignifies ſtrictly a little Spring; and is uſed to expreſs Iſſues, Seatons, or any ſuch like artificial Diſcharges.

Foramen Arteriæ Duræ Matris. See *Dura Mater*.

Foramen Lacerum. See *Dura Mater*.

Foramen Ovale. See Circulation of the Blood in a *Fœtus*, and *Heart*.

Forceps, properly ſignifies a Pair of Tongs; but is uſed for an Inſtrument in Chirurgery, to extract any thing out of Wounds, and the like Occaſions.

Fore-Skin. See *Præputium*.

Forfex, an Inſtrument to draw Teeth with.

Form, is the eſſential, ſpecifical, or diſtinguiſhing Modification of the Matter of which any thing is compoſed, ſo as thereby to give it ſuch a peculiar Manner of Exiſtence: And this is an Aggregate or Convention of as many particular Qualities, as ſerve to denominate a Body of ſuch a Nature, and to give it ſuch a Name, and which diſtinguiſhes it from other Bodies: So that it is not any kind of ſubſtantial Soul or Subſtance diſtinct from Matter, but only ſuch a proper and agreeable Convention of Accidents, as by common Conſent are reputed ſufficient to make a Portion of univerſal Matter belong to this or that determinate Genus or Species of natural Bodies.

Formica, is an Ant, and is uſed to expreſs little Tumours which appear like the Bitings of thoſe Creatures.

Formicans Pulſus, is an exceeding ſmall and unequal Pulſe, being no more than a leſs Degree of the Vermicular.

Formula, a little Form or Preſcription, ſuch as Phyſicians direct in extemporaneous Practice, in diſtinction from the great Forms, which are for the officinal Medicines.

Fornix. See *Brain*.

Foſſa Magna, is the interior Cavity of the *Pudendum Muliebre*.

Foſſile, this ſignifies any thing that is dug out of the Earth; from *fodio*, to dig. For the ſeveral Diviſions of which, ſee the Writings of natural Hiſtorians.

Fotus, the ſame as Fomentation.

Fovea Cordis, the hollow of the Heart. See *Anticardium*.

Fracture, from *frango*, to break, is the accidental breaking of any Bone.

Frænum, ſignifies a Bridle, and is uſed for the membranous Ligament under the Tongue, which generally wants cutting in Infants, to give ſufficient room for the Tongue's Motion. There is alſo a Bridle of the *Penis* which ties the *Prepuce* to the *Glans*: and which being contracted in a *Gonorrhœa*, is called a *Chordé*; which ſee.

Freckle. See *Lentigo*.

Freezing. Altho this Term is out of the Province of Medicine, yet it is concerned in ſuch a Change of Bodies as bears a reſemblance to, and therefore may explicate the Alteration made in ſeveral Subſtances under the Phyſician's Directions; and for that reaſon is of uſe to be underſtood. That Ice is ſpecifically lighter than the Water out of which it is by freezing made, is certain by its ſwimming in it; and that this levity of Ice proceeds from thoſe numerous Bubbles which are produced in it by its Congelation, is equally certain: But how thoſe Bubbles come to be generated in freezing, and what Subſtance they contain in them, if it be any, is an Enquiry of great Importance, and perhaps if diſcover'd, might help us much to underſtand the Nature of Cold. The true Cauſe of the Congelation of Water into Ice, ſeems plainly to be the Introduction of the frigorifick Particles into the Pores or Interſtices between the Particles of Water; and by that means getting ſo near them, as to be juſt within the Spheres of one another's Attractions, and then they muſt cohere into one ſolid or firm Body. But Heat afterwards ſeparating them, and putting them into various Motions, breaks this Union, and ſeparates the Particles ſo far from one another, that they get out of the Diſtance of the attracting Force, and into the Verge of the repelling Force, and then the Water reaſſumes its fluid Form. Now that Cold and Freezing do ariſe from ſome Subſtance of a ſaline nature floating in the Air, it ſeems probable from hence, That all Salts, and more eminently ſome particular ones, when mixed with Snow or Ice, do prodigiouſly encreaſe the Force and Effects of Cold. We ſee alſo that all ſaline Bodies do produce a ſtiffneſs and frigidity in the Parts of thoſe Bodies into which they enter. Microſcopical Obſervations upon Salts manifeſt, that the Figures of ſome Salts, before they ſhoot into Maſſes, are thin double wedged-like Particles, which have abundance of Surface in reſpect to their Solidity, (which is the reaſon why they ſwim in Water when once raiſed in it, tho ſpecifically heavier.) Theſe ſmall Points of the Salt getting into the Pores of the Water, whereby alſo they are in ſome meaſure ſuſpended in the Winter-time, (when the Heat of the Sun is not ordinarily ſtrong enough to diſſolve the Salts into a Fluid, to break their Points, and to keep them in perpetual Motion) being leſs diſturbed, are more at liberty to approach one another, and by ſhooting into Cryſtals of the Form above-mentioned, do, by their Extremities, inſinuate themſelves into the Pores of Water, and by that means freeze it into a ſolid Form. And we ſee the Dimenſions of Water are increaſed by freezing, its Particles being kept at ſome diſtance one from another by the Intervention of the frigorifick Matter. But beſides this, there are many little Volumes or Particles of Air, included at ſeveral diſtances both in the Pores of the watry Particles, and in the Interſtices made by the ſpherical Figures. Now by the inſinuation of theſe Cryſtals, the Volumes of the Air are driven out of the wâtry Particles; and many of them uniting, form larger Volumes, which thereby have a greater Force to expand themſelves than when diſperſed, and ſo both enlarge the Dimenſions, and leſſen the ſpecifick Gravity of Water thus congealed into Ice. And hence we may gueſs at the manner, how Water impregnated with Salts, Sulphurs, or Earths, which are not eaſily diſſolvable, may form it ſelf into Metals, Minerals, Gums and other Foſſils; the Parts of theſe Mixtures becoming a Cement to the Particles of Water, or getting into their Pores, and changing them into theſe different Subſtances. See *Prop.* 18. under *Particles.*

Friction, is often uſed by mechanical Writers to expreſs that Reſiſtance and Wearing which ariſes from the rubbing hard Bodies one againſt another; as alſo by Phyſicians, for rubbing any Part in order to diſlodge any obſtructed Humours, or promote a due Motion of the included Juices. This is of great ſervice in Medicine, and may contribute to the Cure of ſeveral Diſtempers, and eſpecially ſuch as proceed from a Stoppage of inſenſible Perſpiration, or an Obſtruction of the cuticular Pores.

Frigidarium, was a Term by the Antients given to a Veſſel, uſed in their Bathing, holding cold Water, but is now of no other Uſe than ſometimes to expreſs the ſame as a Refrigeratory, in the common way of Diſtillation.

Frigorifick Atoms, or Particles, mean thoſe nitrous Salts which float in the Air in cold Weather, and occaſion freezing.

Frontales, are two Muſcles that lie immediately under the Skin of the Head, or *Pericranium,* whoſe fleſhy Fibres are inſerted into the Eye-Brows; from thence they go ſtrait up the *Os Frontis,* and are continued by a long and large *Aponeuroſis* to that of the *Occipitales*; they adhere cloſely to the Skin of the Forehead, and pull it upwards when they act.

Frontale, is any external Form of Medicine to be applied to the Forehead, generally compoſed, amongſt the Antients, of Coolers and Hypnoticks.

Frontated, in Botany, expreſſes the Leaf of a Flower growing broader and broader, and at laſt perhaps terminating in a right Line; and is uſed in oppoſition to *Cuſpated*, which is, when the Leaves of a Flower end in a Point.

Frontis Os, is a Bone of the *Cranium* in form almoſt round; it joins the Bones of the *Sinciput* and Temples, by the *Coronæ Sutura*, and the Bones of the upper Jaw by the *Sutura tranſverſalis*, and the *Os Sphenoides* by the *Sutura Sphenoidalis*. It forms the upper Part of the *Orbit*, and has four *Apophyſes*, which are at the four Angles of the two *Orbits*. It has two Holes above the *Orbits*, thro' which paſs the Vein, Artery, and ſome Twigs of the firſt Branch of the fifth Pair. It has alſo one in each *Orbit*, a little above the *Planum*, thro' which a Twig of the *Opthalmick* Branch of the fifth Pair of Nerves paſſes to the Noſe. It has two *Sinus's* above the Eye-Brows, between its two Tables; they are lined with a thin Membrane, in which there are ſeveral Blood-Veſſels and Glands, which ſeparate a mucous Seroſity that falls into the Noſtrils. The inſide of this Bone has ſeveral Inequalities, made by the Veſſels of the *Dura Mater*. It has two large Dimples made by the *Anterior* Lobes of the Brain. Above the *Criſta Galli* it has a ſmall blind Hole, into which the End of the *Sinus longitudinalis* is inſerted.

Fructiferous, ſignifies any thing that bears Fruit; from *fructus*, Fruit, and *fero*, to bear.

Frutex, is a Vegetable between a Tree and an Herb, but of a woody Subſtance.

Fucus, hath been uſed for a Colour or Paint to beautify the Face with, and belongs to the Claſs of Coſmeticks.

Fuga Vacui, is an imaginary Abhorrence in Nature of a Vacuity: but a more reaſonable Philoſophy has expunged ſuch Phantaſms.

Fuliginous Vapours, are any Exhalations of the Nature of Smoak, as *Fuligo* ſignifies Smoak. Tho ſome make a needleſs Diſtinction between *Fuligo* and *Fumus*.

Fulmigation, is making one Body receive the Steam of another, and is done various ways, and to different Purpoſes. And the Chymiſts uſe it for a Species of Calcination, when that Proceſs is performed upon any Subſtance by the Steams of another; as Lead is reducible into a Calx by the Steam of Acids.

Fulmination. See *Detonation*.

Function, is the Office of any particular Part, to which it is by Nature fitted. The *Functions* or *Faculties*, are divided into Natural, Vital, and Animal; which ſee.

Fundalia, ſo *Libavius* ſays ſome Writers call the *Fæculæ*, or Sediments of any turbid Fluids.

Fundus Plantæ, the Bottom of a Plant. Botaniſts call that Part ſo where the ſtalk juſt meets and joins the root.

Fungus, is ſtrictly a Muſhroom, and uſed to expreſs ſuch Excreſcences of Fleſh as grow out upon the Lips of Wounds, with a reſemblance thereunto, or any other Excreſcence from Trees or Plants not naturally belonging to them, as the Agarick from the Larch-Tree, and *Auriculæ Judæ* from Elder.

Funiculus, is ſtrictly a little Rope, but by Anatomiſts applied to ſome Parts having Reſemblance thereunto in Texture, as the umbilical Veſſels, twiſted into the Navel-ſtring.

Funicular, is alſo applied to a particular Opinion in Philoſophy, by *Franciſcus Linus*, where the Coheſion of Bodies is accounted for from a Property holding them together, as in the Make of a Rope; but this hath been oppoſed and refuted by Mr. *Boyle*, in a Treatiſe wrote on purpoſe.

Furcula. The ſame with *Clavicula*; which ſee.

Furfur, ſignifies properly Husk or Chaff, and therefore is uſed for Scurf or Dandriff, that grows upon the Skin with ſome likeneſs thereunto. *Hippocrates* frequently uſes ϖιτυρώδης, *Furfurea*, to expreſs a peculiar Sediment in the Urine like Bran; and *Galen*, with many ſince, termed ϖιτυρίασις, *Furfuratio*, ſuch dry ſcaly Eruptions of the Skin as are ſeen in Leproſies and ſaline ſcorbutick Habits.

Furnace, in Chymiſtry, is an Inſtrument contrived to receive the Fewel or Fire made uſe of in its Operations, and to direct it to the Veſſel including the Matter to be changed thereby: Of theſe there are various kinds, which are beſt learned by Inſpection.

Furor, the ſame with *Mania*.

Furor Uterinus, is a particular kind of Diſtraction that proceeds from Heat and Titillation in the Womb, which makes Females at certain timesoutrageous for Coition.

Fuſion, is the running of Metals into Fluids, and ſignifies melting of any thing. To underſtand this well, it is neceſſary to conſider the Cauſes of Solidity and Fluidity. The Solidity, Hardneſs, or Force, by which the Parts of any Body reſiſt ſeparation, ariſes from the mutual Coheſion of its component Parts; which Coheſion is but a neceſſary Conſequence of the attractive Power reſiding in Matter. Now the attractive Force, as it is ſtrongeſt at the Point of Contact, it is the Cauſe why the Coheſion of all Bodies is in proportion to the Number of Points they touch one another in; ſo that thoſe Particles which have leaſt Solidity with relation to their Surfaces, altho they attract the leaſt at diſtance, yet when they touch, they cohere moſt intimately; but where the Coheſion is ſmall, for the contrary Reaſon as in ſpherical Bodies, whoſe Superficies can only touch in a Point, their Particles eaſily give way to every Impulſe; and whenever they are ſet in Motion, whether by Nature or Art, Fluidity takes place: and how this may be effected by Fire, 'tis not in the leaſt difficult to conceive. Whilſt the Particles of Fire by their Activity and Force, inſinuate themſelves into the Subſtance to be melted, they ſo divide and break it, that there is a much leſs Contact of Parts, and of courſe a weaker Coheſion; and this Coheſion may ſtill, by a continuance of the ſame Cauſe, and further diminiſhing the degree of Contact, be ſo far weakened, that it is not ſufficient to keep the component Parts from rolling over one another, that is, from running into a Fluid.

From the Rarefaction which is uſual in the Fuſion of theſe Subſtances, it is evident theſe Parts may be, and actually are divided and ſeparated from one another by Fire: for unleſs the Fire gained admiſſion between their component Parts, ſo far as to force them into greater Diſtances from one another, and thereby leſſen their Contacts, there could be no reaſon aſſigned for the expanding themſelves into a larger Space. For Experience teaches, that a Plate of Iron by being made red-hot, increaſes in all its Dimenſions. The ſame is obſervable in calcining Copper.

From this difference of Coheſion proceeds all that Variety we obſerve in the Fuſion of Bodies: for ſuch as have leaſt Contact of Parts, ſooneſt give way to the Fire; and ſome will melt away by the warmth of a

Vapour only, when others which have a ſtronger Contact, are not to be ſeparated but with difficulty. Upon this account Vegetables very eaſily diſunite, Minerals ſlower, and Metals ſloweſt of all: And of the laſt, thoſe wherein the Contact of Parts is leaſt, as in Lead and Tin, moſt readily melt; but thoſe which are more compact, as Gold and Silver, are not to be managed but by a violent Heat. Now if the Force of Coheſion was proportional to the Quantity of Matter, or to the Weight of Bodies, we might from Staticks account for all the Variety which occurs in Fuſion; for by knowing the ſpecifick Gravity of a Body, we ſhould then know what Force is required to melt it. But becauſe the ſame Quantity of Matter may be ſo variouſly diſpoſed, that in one Body there ſhall be a much greater Contact than in another, tho' the Gravity be equal, or even leſs at the ſame time; therefore the Force of Coheſion cannot be eſtimated by Gravity: for Lead, altho more ponderous than all other Metals except Gold, yet in the Fire is more eaſily melted than any other: So that it neceſſarily follows, that in this Metal there muſt be a leſs Coheſion, or Contact of Parts, how much ſoever it may exceed others in the Quantity of its Matter.

Bodies, after Fuſion, return again into a ſolid Maſs, upon their removal from the Fire, and the Ceſſation of the Motion which the ~~Fire~~ produced; becauſe their Particles are brought nearer to one another by their attractive Force, and ſo compelled to unite. Such as conſiſt of homogeneous and unalterable Parts, as Wax, Gums, and the purer Metals, recover their antient Form: for when the ſame Texture of Parts remains in the whole Body, it muſt of courſe reaſſume the ſame Appearance, when the ſeparating Power ceaſes to act; but other Bodies, whoſe Parts with reſpect to Denſity and Surface are extremely different from one another, while ſome are carry'd off by the Force of Heat, and others are changed as to Figure and Poſition, muſt be forced to appear in another Form: for they cannot recover their original Phaſes, unleſs every Particle could reinſtate it ſelf in that very ſituation it had before; which may be hindred infinite ways, as may be eaſily experienced in heterogeneous Bodies. Therefore the difference which is obſerved even in homogeneous Bodies, after Liquefaction, is no ways to be accounted for, but from the Changeableneſs of Surface in its Parts; for thoſe Bodies whoſe Parts conſtantly retain the ſame Surfaces, never loſe their Form; but others, by having the Surfaces of their Parts altered, have a different Texture, and put on another Appearance.

G.

G*alactophorous Ducts*, from γάλα, *Lac*, Milk, and φέρω, *duco*, to lead; are any Veſſels that convey Milk. See *Lacteals*: whence alſo *Galactodes*, γαλακτώδης, by the antient Writers was applied to many things, as the Urine, *&c.* of a whitiſh or milky Hue.

Galbanetum, is a Compoſition or Preparation of *Galbanum* formerly preſcribed, but now out of uſe.

Galeated, is by Botaniſts given to ſuch Plants as bear a Flower reſembling an Helmet; as the Monks-Hood, from *Galea* an Helmet. Some alſo expreſs the ſame thing by *Galariculate,* and *Cucullate.* See *Flower.*

Galenick Medicine, is that Practice of Medicine which conforms to the Rules of *Galen,* and runs much upon multiplying Herbs and Roots in the ſame Compoſition; tho ſeldom torturing them any otherwiſe than by Decoction: in oppoſition to Chymical Medicine, which by the Force of Fire and a great deal of Art, fetches out the Virtues of Bodies, chiefly Mineral, into a ſmall Compaſs.

Gall. See *Bile.*

Gall-Bladder. See *Veſica Biliaris.*

Gallicus Morbus. See *Lues.*

Gallinaginis Caput. See *Caput Gallinaginis.*

Gamboidea, is a Name applied to Gamboge, with many other diſtinctions, as the *Succus Indicus Purgans, Gummi Gammandræ,* &c. of which *Rolfinkius* gives the Hiſtory; as alſo hath *Rudenius* a *German* Phyſician wrote a whole Book about it.

Ganglio, a Knot of Nerves, or where they ſeem to be tied together; it is the ſame as *Plexus.* See *Nerve.*

Garglion, is an Exſudation of nervous Juice, from a Bruiſe or the like, which indurates into a hard immovable Tumour.

Gangrene. See *Mortification.*

Gangareon, and *Gargulio.* See *Uvula.*

Gargariſm, from γαργαρίζω, *colluo,* to waſh; is a liquid Form of Medicine to waſh the Mouth with.

Gas, is a Term uſed by *Van Helmont,* but in a very looſe manner, as when he calls the vital Principle in Man *Gas vitale;* applied alſo to mineral Sulphurs which occaſion Damps; to Air, and to Water, which laſt he calls *Gas Salium.* If it has any determinate ſignification, it is the ſame as Spirit, and means the moſt ſubtile and volatile Parts of any thing; as,

Gas Cereviſiæ, is the ſpirituous Steam that flies off from Ale while it is in the Tun, or in the working as it is commonly called. And,

Gas Sulphuris, is the more ſpirituous Parts of Brimſtone received, by burning, into Water.

Gaſter, Γαϛήρ, *Venter,* the Belly. It is ſometimes taken for the whole *Abdomen,* at others only for the Stomach, and ſometies for any other Cavity. Hence,

Gaſtrick Juice is the Juice of the Stomach. And,

Gaſtrick Veſſels, thoſe diſtributed to the ſame Part.

Gaſterotomy, the Diſſection of the Bowels, from γαϛήρ, and τέμνω, *ſeco,* to cut.

Gaſterocnemium, from the former, and κνήμη, *Tibia,* the Leg; ſignifies the whole Calf of the Leg: and hence its Muſcles are called,

Gaſterocnemii, which are two, external and internal; the former is alſo called *Gemellus,* from its being as it were double. It has two diſtinct fleſhy Originations, from the ſuperior and hindermoſt Part of each Tubercle of the lower Appendage of the Thigh-Bone, which in their deſcent are each dilated into two ſmall fleſhy Bellies, the innermoſt of which is thickeſt and largeſt, having each a different Series of fleſhy Fibres, and join to each other near where they make a broad ſtrong Tendon, with narrowing it ſelf, joins with the great Tendon of the *Solæus,* four Fingers breadth above its inſertion to the *Os Calcis.* When this Muſcle acts, the Foot is ſaid to be extended or pulled backwards; which Motion of it is very neceſſary to walking, running, leaping, and ſtanding on tiptoe, *&c.* Whence it is that thoſe who walk much, that carry heavy Burdens, and who wear low-heel'd Shoes, have theſe Muſcles larger than others. The Internal, called alſo *Soleus,* from its Figure reſembling a Sole-Fiſh, is placed under the external. Its external fleſhy Part is cover'd with a tranſparent tendinous Expanſion, which makes it appear of a livid Colour. It begins partly tendinous, chiefly from the hindermoſt Part of the upper Appendix of the *Fibula,* and back-part of the *Tibia,* that is below the Inſertion of the *Subpopliteus*; and increaſing to a large fleſhy Belly compoſed of various Orders of fleſhy Fibres, ſome of them underneath aptly expreſſing the Figure of the Top of a Feather, whoſe *Stamina* here being tendinous, join with the great Tendon, which is about a Finger's breadth long, and inſerted to the ſuperior and hindermoſt Part of the *Os Calcis.* The Foot, together with the Toes, being as it were a Leaver to the whole Body, ought therefore to be attended with Muſcles of great Strength to extend it; and which is the Reaſon that theſe Muſcles ſo much exceed their Antagoniſts.

Gelatinous, any thing approaching to the Conſiſtence of a Jelly. Thus a Decoction of Bread in Water may be reduc'd into a Jelly, for the Uſe of the Sick.

Gemellus. See *Biceps.*

Gemini, are two Muſcles of the Thigh which ariſe from the Protuberance of the *Iſchium,* and are inſerted with the *Pyriformis* into the Dent at the Root of the great *Trochanter.*

Gemma, amongſt Botaniſts, ſignifies the turgid Bud of any Tree, when it is beginning to bear.

Generation. See *Fœtus.*

Generation, Parts of, proper to Men. Theſe may be fitly divided into thoſe which prepare and ſeparate the Seed from the Blood, and thoſe which convey it into the Womb. The firſt is done by three Sorts of Glands, which are the *Teſtes,* the *Veſiculæ Seminales,* and the *Proſtatæ.* The ſecond is the Office of the *Penis* or Yard. The *Teſtes* which prepare the principal Part of the Seed, receive their Blood from two long ſlender Arteries, which at their riſe from the ſides of the *Aorta,* a little below the Emulgents, are extremely ſmall, but immediately become bigger; the reaſon of which Mechaniſm, ſee under *Secretion.* As theſe Arteries run between the Duplicature of the *Peritonæum,* to which they give ſome ſmall Twigs, they paſs out of the *Abdomen* at the Holes in the tranſverſe and oblique Muſcles, and march over the *Os Pubis,* within the Productions of the *Peritonæum* to the Teſticles; but before they arrive, they divide each into two Branches, the largeſt of which are ſpent upon the Teſticles themſelves, and the two ſmall ones upon the *Epididymes.* When the Blood has diſcharged itſelf of the Seed into the Teſticles, it returns by the Veins, which riſing in ſeveral Branches from the *Teſtes,* tend towards the *Abdomen,* in the Productions of the *Peritonæum,* the ſame way the Arteries came down. In their Progreſs their Branches frequently inoſculate, and divide again till they come near the *Abdomen,* when they all unite in one

Trunk ; and therefore becauſe of their Shape, are called *Corpora Pyramidalia.* In the *Abdomen* they receive ſome ſmall Twigs from the *Peritonæum.* The right ſpermatick Vein opens into the *Vena Cava,* a little below the Emulgent : but the left is always inſerted into the Emulgent of the ſame ſide, that it may not be obliged to croſs the *Aorta,* whoſe Pulſe would be apt to ſtop the Blood which returns from the Teſticles very ſlowly, by reaſon of the narrow Orifices of the ſpermatick Arteries, and the largeneſs of the Veins. Theſe Blood-Veſſels have been called the *Vaſa Præparantia.*

The *Teſticles* have three Integuments, one common and two proper. The common is the *Scrotum,* which beſides the Skin, (which is very thin, and full of Blood-Veſſels) Scarf Skin, and *Membrana Adipoſa,* (in this place likewiſe very thin, its Veſicles being empty of Fat) is compoſed likewiſe of many fleſhly or muſcular Fibres, by means of which the *Scrotum* is contracted, and is reckoned a Sign of Health. This muſcular Lining of the *Scrotum* is by the *Greeks* called *Dartos.* The *Scrotum* is divided in the middle by a thin Membrane, which ſeparates the two Teſticles. The firſt of the proper Integuments is called *Tunica Vaginalis,* or *Elythroides,* being formed by the dilatation of the Productions of the external Membranes of the *Peritonæum :* its internal Superficies is ſmooth, its external rough ; it contains the *Vaſa Præparantia* and *Deferentia* ; it embraces looſely the whole Body of the Teſticle, adhering to one end of the *Epididymis.* Upon the outſide of this Tunicle runs a Muſcle called *Cremaſter,* from its Office of ſuſpending the Teſticles, κρημάω ſo ſignifying : it riſes from the *Os Pubis,* and ſpreading its Fibres upon the *Elythroides,* it draws up the Teſticles in the Act of Generation. The ſecond is that which covers immediately the Teſticles. It is called *Albuginea,* becauſe of its white Colour. It is ſtrong and thick, very ſmooth and equal. The Branches of the *Vaſa Præparantia* are finely weaved upon it.

The Subſtance of the Teſticles, which formerly was thought to be a ſort of Marrow, is nothing but the folding of ſeveral ſmall and ſoft Tubes, diſpoſed in ſuch a manner, that if they could be ſeparated from one another without breaking them, they might be drawn out to a great length. They run in ſhort traces from the *Tunica albuginea* to the Axes of the Teſticles, being divided from one another by thin membranous Productions from the inner ſide of the *Albuginea.* Theſe Productions unite at the Axes of the Teſticle, and form a Cover to ſome ſmall Tubes which at one end of the Teſticle pierce the *Tunica Albuginea,* and unite into one Canal, which by ſeveral turnings and windings upon the upper Part of the Teſticles forms that Body which we call *Epididymis,* cover'd with a thin Production of the *Albuginea.* The ſame Canal continuing, and aſcending, forms the Extremities of the *Epididymis,* from the *Vaſa deferentia,* one from each *Epididymis,* about the bigneſs of a Gooſe-Quill ; as they aſcend within the *Tunica Vaginalis,* they make ſeveral ſhort turnings and windings ; then they enter by the Holes of the tranſverſe and oblique Muſcles into the *Abdomen,* and marching over the *Ureters,* between the backſide of the Bladder and the *Rectum,* they grow larger as they approach the *Veſiculæ Seminales,* (which open into them) where they come cloſe to one another; and growing again ſmaller and ſmaller, they paſs thro' the *Proſtratæ*, and open into the *Urethra*, a little below the Neck of the Bladder, where each Orifice has a ſpongious Border, called *Caput Gallinaginis*, which hinders the involuntary running of the Seed. The Cavity of the *Vaſa Deferentia*, before they enter the *Abdomen*, will hardly admit of a Hog's Briſtle; as they increaſe, ſo likewiſe do their Cavities, which are tortuous, and obliquely contracted by their inner Coat, which is nervous, whiter and thinner than the external, which is compoſed of muſcular Fibres. The Teſticles have many *Lymphaducts*, which diſcharge themſelves into the inguinal Glands. Their Nerves come from the *Intercoſtal*, and out of the Spine.

The ſpermatick Arteries carry the Blood from the *Aorta* to the Teſticles, which ſeparate that part of it which is fit for Seed. The Veins carry back to the *Cava* what Blood remains after the Secretion of the Seed. The Seed is further purify'd in the *Epididymes*, and in Coition is carried by the *Vaſa Deferentia* into the *Urethra*. As the narrow Orifices, and great Length of the ſpermatick Arteries, (which give time to the ſlow moving Particles of the viſcous Seed to unite) are a clear Proof of what we have ſaid concerning the Formation of the Humours to be ſecerned; ſo the Length of the Tubes which compoſe the Body of the Teſticles, does not leſs evidently evince the Structure given of a Gland, under that Title: For the Particles which compoſe the Seed, being groſs, all the ſmaller Particles of the Blood muſt enter the Tubes with them; and therefore that none but the Particles of the Seed might arrive at the *Vas Deferens*, it was neceſſary that the Tube of the Gland ſhould be long, having many ſmaller Branches, to convey off the leſſer Particles, which were not to enter into the Compoſition of the Seed. Many of theſe Particles muſt be *lymphatick*, becauſe of the great proportion they bear in the Blood: and therefore we find that the Teſticles, as well as the Liver, have a multitude of *lymphatick* Veſſels. The reaſon of the Length of the *Vaſa Deferentia*, is, that the *Impetus* of the Seed at the *Caput Gallinaginis* might not be ſufficient to dilate the Orifices of the *Vaſa Deferentia*, but when aſſiſted with the Compreſſion of the ſurrounding Parts in Copulation.

The *Veſiculæ Seminales* are two in number, one on each ſide, ſituated between the Bladder and the ſtrait Gut, tied to the one and the other by a Membrane of fleſhy Fibres, which, in time of Coition, contracts and preſſes the *Veſiculæ*. They are covered with a pretty thin Membrane, upon which do creep many Branches of Veins, Arteries, Nerves, and Lymphaticks. Their external Surface reſembles rather that of the Brains, than that of the Guts of a little Bird: They are about two Fingers breadth long, their broadeſt Part is not an Inch, from which they grow narrower by little and little to their End, which is next the *Proſtatæ*. They have two conſiderable Cavities divided into membranous Cells, which open diſtinctly by two Orifices which are in their ſmall Extremities, into the two *Vaſa Deferentia*, from which they receive the Seed which is ſeparated in the Teſticles, to be kept till Coition. The *Proſtatæ*, or *Corpus Glanduloſum*, is a conglomerate Gland ſituated at the Neck of the Bladder, cover'd

N 3

with a Membrane made of muſcular Fibres, as that of the *Veſiculæ*, and for the ſame Uſe: It is about the Bigneſs of a Walnut. The *Vaſa Deferentia* paſs thro' its Subſtance, which is veſicular and glandulous. The Glands (which like little Grains lie upon the ſides of the Veſicles) ſeparate a clear and mucilaginous Humour, which lies in the Veſicles till Coition; then it is carried into the Beginning of the *Urethra*, by eleven or twelve Excretory Ducts, which open about the Orifices of the *Vaſa Deferentia*. The Border of their Mouth is all ſpongious, to hinder a continual running of this Humour, which happens in a *Gonorrhœa*, when their Orifices are corroded by the morbifick Matter which is thruſt by the Elaſticity of Air into the empty Ducts upon Coition.

The other principal Member of the Parts of Generation, is the *Penis*, or Yard, whoſe Shape and Dimenſions are pretty well known. Its Skin, which is thin and without Fat, has a Reduplication, which makes a Hood to the *Glans*, or End of the Yard, called *Præputium*, or the Fore-Skin. The ſmall Ligament by which it is tied to the other Side of the *Glans*, is called *Frænum*. The Uſe of the *Præputium* is to keep the *Glans* ſoft and moiſt, that it may have an exquiſite Senſe. The Subſtance of the Yard is compoſed of two ſpongious Bodies, called *Corpora Cavernoſa*: They ariſe diſtinctly from the lower Part of the *Os Pubis*. A little from their Root they come cloſe together, being only divided by a Membrane, which at its beginning is pretty thick; but as it approaches the End of the Yard it grows thinner and thinner, where the *Corpora Cavernoſa* terminate in the middle of the *Glans*. The external Subſtance of theſe ſpongious Bodies is hard, thick, and white. The internal is compoſed of ſmall Fibres and Membranes which form a ſort of looſe Net-work, upon which the Branches of the Blood-Veſſels are curiouſly ſpread. When the Blood is ſtopped in the great Veins of the *Penis*, it runs thro' ſeveral ſmall Holes in the Sides of their Capillary Branches into the Cavities of the Net-work, by which means the *Corpora Cavernoſa* become diſtended, or the *Penis* erected. Along the under Side of the *Corpora Cavernoſa*, there runs a Pipe called the *Urethra*, which is about twelve or thirteen Inches long; beginning at the Neck of the Bladder (from which it receives the Urine) it bends to the lower Part of the *Os Pubis*, and turning up to the Roots of the *Corpora Cavernoſa*, is continued to the End of the Yard. The Sides of this Pipe are compoſed of two Membranes, and a middle ſpongy Subſtance like that of the *Corpora Cavernoſa*, except at the End, which joins the Neck of the Bladder, where the Diſtance between the Membranes is ſmall, and filled up with a thin and red glandulous Subſtance, whoſe excretory Ducts piercing the internal Membrane, pour into the Pipe a mucilaginous Liquor. The external Membrane is hard, cloſe, and white: The internal, which lines the Cavity of the *Urethra*, is thin, ſoft, and of an exquiſite Senſe. The ſpongious Subſtance, which lies between the two Membranes, is about half a Line thick next to the *Corpora Cavernoſa*, and one Line and a half round the reſt of the Pipe. The Extremities of this ſpongy Subſtance are much thicker than in the Middle. That End next the *Proſtatæ*, becauſe of its Bigneſs, is called the Bulb of the *Urethra*, being about half an Inch thick, and divided in the middle by a thin Partition, as the *Corpora Cavernoſa* are. The other End forms the *Glans* or *Balanus*, upon the Extremities of the *Corpora Cavernoſa*. The Veins in the *Urethra* have Holes in their Sides, thro' which the Blood paſſes into the Cavity of the Net-work, in an Erection, as in the *Corpora Cavernoſa*. On each ſide of the Bulb of the *Urethra* there lies a ſmall Gland, whoſe excretory Duct ſloping forwards, pours into the *Urethra* a viſcous and tranſparent Liquor, which defends it againſt the Acrimony of the Salts of the Urine. And on the oppoſite Side of the *Urethra*, upon its internal Membrane, a little nearer the *Glans*, there is another ſmall Gland which has the ſame Office. At the other end of the *Urethra*, around the Crown of the *Glans*, where it joins the *Præputium*, is a Row of ſmall Glands, like unto thoſe of the *Cilia*, called *Glandulæ Odoriferæ*. They ſeparate a Liquor which lubricates the *Glans*, that the *Præputium* may ſlip eaſily upon it. The Yard has a ſmall Ligament, which ariſes from its Back a little diſtance from its Root, which ties it to the upper Part of the *Os Pubis*, that it may not hang too low. It receives two Branches of Veins and Arteries from the *Hypogaſtrick*, Veſſels; beſides others from the *Pudenda*. The two Veins unite near its Roots, and form one Trunk which runs along the upper Side of the Yard. It has two Nerves from the *Os Sacrum*, and ſeveral Lymphaticks which empty themſelves into the inguinal Glands. The Yard has three Pair of Muſcles: The firſt is the *Erectores*; they riſe from the *Iſchium*, a little below the Roots of the *Corpora Cavernoſa*, they lie upon them, and are inſerted into them. The ſecond are the *Acceleratores*; theſe riſe from the Root of the *Urethra*: they have ſeveral Fibres, which join the Fibres of the *Sphincter Ani*. They lie upon the *Urethra*, betwixt the two former, and are inſerted into the *Corpora Cavernoſa*. The third Pair are the *Tranſverſales*; they ariſe from the *Iſchium* juſt by the *Erectores*, and run obliquely to the upper Part of the Bulb of the *Urethra*. When theſe Muſcles act, they preſs the Veins upon the back of the *Penis* againſt the *Os Pubis*, which is the Cauſe of the Erection.

Generation, is the Production of any thing in a natural way, which was not before in being: For when in any parcel of Matter there is produced ſuch a Concurrence of all thoſe Accidents which are neceſſary and ſufficient to conſtitute a determinate Species of things corporeal; it is then ſaid a Body belonging to that Species is generated. So that no new Subſtance, but only a new eſſential Denomination, Modification, or manner of Exiſtence, is produced or generated. And when that Union of Accidents which denominates a Body generated, is deſtroy'd and diſſolved, that Body loſing its eſſential Modification is ſaid to be corrupted.

Generation Parts of, proper to Women. Firſt appears the *Vulva*, or great Chink, ſituated below the *Os Pubis*, and covered with Hair. Above this there is a little Swelling made by ſome Fat under the Skin, which is called *Mons Veneris*. The *Labia*, or Lips of the great Chink, are only the Skin ſwelled by ſome Fat underneath. Theſe being a little ſeparated, the *Nymphæ* appear, one on each ſide the Chink: They are two ſmall Pieces of Fleſh reſembling the Membranes that hang under the Throats of Pullets; In the Angle of the great Chink, next the *Os Pubis*, is the Extremity of the *Clitoris*, covered with a little Hood of the Skin, called *Præputium.* A little deeper, in the ſame Side of the *Vulva*, there is a little Hole, which is the Orifice of the Neck of the Bladder. On the oppoſite Side, next the *Anus*, are the *Glandulæ Myrtiformes*, ſituated in the *Foſſa magna*, or *Navicularis*; and in this Angle of the Chink there is a Ligament called the Fork, which is torn in the firſt Birth.

The *Clitoris*, which is in the Fore-part of the *Vulva*, is a long and round Body, naturally about the Bigneſs of the *Uvula.* It lies within the Skin; nor does any Part of it appear outwardly, except its Extremity, which is covered with a folding of the Skin made by the Union of the *Nymphæ*, called its *Præputium.* The Subſtance of the *Clitoris* is compoſed of two ſpongious Bodies, ſuch as thoſe of the Yard; they ariſe diſtinctly from the lower Part of the *Os Pubis*, and approaching one another, they unite and form the Body of the *Clitoris*, whoſe Extremity, which is of an exquiſite Senſe, is called *Glans.* The two ſpongious Bodies before they unite are called *Crura Clitoridis:* they are twice as long as the Body of the *Clitoris.* It has two Muſcles, which ariſe from the Protuberance of the *Iſchium*, and are inſerted into its ſpongious Bodies. They erect the *Clitoris* in Coition, after the ſame manner that the Muſcles of the Yard do erect the Yard. The *Clitoris* receives Veins and Arteries from the *Hæmorrhoidal* Veſſels and the *Pudenda*; and Nerves from the *Intercoſtals*, which are likewiſe diſtributed thro' all the Parts of the *Vulva.* Remark, that the Veins on the one ſide of the *Vulva* communicate with thoſe of the other ſide, and ſo do the Arteries with one another.

The *Nymphæ* are ſpongious in their internal Subſtance, and full of Blood-Veſſels, and therefore they ſwell in Coition. They receive Veſſels and Nerves as the *Clitoris.* Their uſe is to defend the internal Parts from external Injuries, to increaſe Pleaſure in Coition, to direct the courſe of the Urine: and they are bigger in married Women than in Maids.

The *Hymen* is a circular Folding of the inner Membrane of the *Vagina*; which being broke in the firſt Copulation, its Fibres contract in three or four Places, and form what they call *Glandulæ Myrtiformes.*

A little beyond the *Clitoris*, in the fore-part of the *Vulva*, above the Neck of the Womb, there is a little Hole, which is the Orifice of the *Urethra.* It is naturally ſo large as to receive a Probe as big as a Gooſe-Quill. The Length of the Neck of the Bladder is near about two Fingers Breadth. It has a little Muſcle called its *Sphincter*, which embraces the *Urethra*, to hinder the involuntary running of the Urine: It joins the fleſhy Fibres which are at the Orifice of the *Vagina.* Between this Muſcle and the inner Membrane of the *Vagina*, there are ſeveral little Glands, whoſe excretory Ducts are called *Lacunæ:* They pour a viſcous Liquor into the lower Part of the *Vulva.* Theſe Glands are the Seat of a *Gonorrhœa* in Women, as the *Proſtatæ* are in Men; and have the ſame Uſe as they have. They have been found all ulcerated in Women, who have had a *Gonorrhœa.*

The *Vagina*, or Neck of the Womb, is a long and round Canal, which reaches from the *Pudendum* to the internal Mouth of the Womb. In Maids it is about five Fingers breadth long, and one and a half wide; but in Women who have borne Children, its Length and Bigneſs cannot be determined, becauſe it lengthens in the time a Woman is with child, and it dilates in the time of Birth. It lies betwixt the Bladder and the *Rectum*, with which laſt it is wrapt up in the ſame common Membrane from the *Peritonæum*: For this reaſon the Excrements come out ſometimes by the *Vulva*, when this Inteſtine is wounded. The Subſtance of the *Vagina* is compoſed of two Membranes, of which the inner, which lines its Cavity, is nervous, and full of Wrinkles and *Sulci*, eſpecially in its fore-part. It has three or four ſmall Glands on that ſide next the *Rectum*, which pour into it a viſcous Humour in the time of Coition, of which we have ſpoken before. The Wrinkles of this Membrane are for the Friction of the *Balanus*, to increaſe the Pleaſure in Copulation, to detain the Seed, that it run not out again, and that it may extend in the time of Geſtation. The external Membrane of the *Vagina* is made of muſcular Fibres, which, as occaſion requires, dilate and contract, become long and ſhort, for adjuſting its Cavity to the Length and Bigneſs of the Yard. At its lower Part there is a Muſcle of circular Fibres like a *Sphincter*; and under it on each ſide the *Vagina* a net-like *Plexus* of Blood-Veſſels, which with the Muſcle, helps to ſtraiten the Mouth of the *Vagina*, that it may graſp the Yard cloſely. The Neck of the Womb receives Veins and Arteries from the *Hypogaſtrick* and *Hæmorrhoidal* Veſſels. Thoſe from the *Hypogaſtrick* are diſperſed in its upper Parts; and thoſe from the *Hæmorrhoidal* in its lower Parts. Theſe Veſſels communicate with one another. It has Nerves from the *Os Sacrum*. Among other Uſes, the Neck of the *Matrix* ſerves for a Conduit to the *Menſtrua*, and for a Paſſage to the *Fœtus*.

The *Matrix*, or Womb, is ſituated in the lower part of the *Hypogaſtrium*, betwixt the Bladder and the ſtrait Gut. The *Os Pubis* is a Fence to it before; the *Sacrum* behind; and the *Ilium* on each ſide. They form as it were a Baſon for it; but becauſe it muſt ſwell whilſt Women are with child, therefore they leave a greater Space in them than in Men: and for this reaſon it is, that Women are bigger in the Haunches than Men. The Figure of the Womb is like a Pear, from its internal Orifice to its Bottom: 'Tis three Fingers long, two broad, and almoſt as much thick. In Maids its Cavity will contain a big Almond; but it changes both Figure and Dimenſions in Women that are with child: It preſſes the Bowels, and reaches to the Navel towards their Delivery, whilſt at other times it does not paſs the *Os Sacrum*. The Womb is covered with the *Peritonæum*. Its Subſtance is compoſed of fleſhy Fibres, which are woven together like a Net, and they draw together and make ſeveral Bundles, which have ſeveral Directions for the better contracting of the Womb in the Expulſion of the *Fœtus*. The Spaces between thoſe Fibres are filled up with thin and ſoft Membranes, which form an infinite number of Cells, upon which the Blood-Veſſels run, turning and winding frequently. Upon theſe Membranes, eſpecially towards the Cavity of the Womb, there are ſeveral Glands which ſeparate a Humour to lubrieate the Cavity of the Womb. The Bottom of the Womb grows thick, as it dilates; ſo that in the laſt Months of Geſtation, 'tis at leaſt an Inch thick, where the *Placenta* adheres, becauſe its Roots run into the Subſtance of the Womb. The Entry into the Cavity, or the Mouth of the Womb, joins the upper End of the *Vagina*, and makes a little Protuberance in the room of Lips, which reſembles the Muzzle of a little Dog; by ſome called *Os Tincæ*. The Cavity of the Womb next its internal Orifice, being more contracted than it is near its Bottom, is called *Collum minus Uteri*. Its Surface is unequal, and among the *Rugæ* open ſeveral ſmall Ducts, which diſcharge a glutinous Liquor to ſeal up the Mouth of the Womb in Geſtation. Theſe Ducts are affected in a *Fluor Albus*. The Veins and Arteries of the Womb are Branches of the *Hypogaſtrick* and *Spermatick* Veſſels, whoſe larger Ramifications inoſculate with one another. When the Term of Accretion draws to a period, and the Blood which was wont to be ſpent in the Increaſe of the Body, being accumulated, diſtends the Veſſels, it breaks forth once a Month at thoſe of the Womb; becauſe, of all the Veins of the Body, which ſtand perpendicular to the Horizon, theſe only are without Valves. This Evacuation is called the *Menſtrua*, to which Men for the ſame reaſon are ſubject; but in them the redundant Humour paſſes off by Urine, and rarely by the *Hæmorrhoidal* Veins. Its Nerves come from the Intercoſtals, and from thoſe which come from the *Os Sacrum*. There are alſo ſeveral Lymphaticks upon its Out-ſide, which unite by little and little into great Branches, and diſcharge themſelves into the Reſervatory of the Chyle. All the Veſſels of the Womb creep upon it by many Turnings and Windings, that they may not break when diſtended. It is tied by two ſorts of Ligaments; by two broad, called *Ligamenta lata*; and by two round, called *Ligamenta rotunda*. The two broad Ligaments are only a Production or Continuation of the *Peritonæum*, from the ſides of the Womb. For their Largeneſs and Fiſſure, they are commonly compared to the Wings of a Bat, and therefore called *Veſpertilionis Alæ*. The *Ovaria* are faſtened to one end of them, and the *Tubæ Fallopianæ* run along the other. The two round Ligaments ariſe from the fore and lateral Part of the bottom of the Womb, and paſs, in the Production of the *Peritonæum*, thro' the Rings of the oblique and tranſverſe Muſcles of the *Abdomen* to the *Os Pubis*, where they expand like a Gooſe-Foot, and are partly inſerted into the *Os Pubis*, and partly continued or joined to the *Muſculus Membranoſus*, or *Faſcita lata*, on the upper part of the Inſide of the Thigh; and from thence comes the Pain that Women big with child feel in this Place. The Subſtance of theſe Ligaments is hard, but covered with a great number of Blood-Veſſels: they are pretty big at the bottom of the Womb, but they grow ſmaller and flatter as they approach the *Os Pubis*.

The *Spermatick* Veſſels in Women are four, as in Men; they differ only in this, that they are ſhorter, that the Artery makes ſeveral Turnings and Windings as it goes down; that it divides into two Branches, of which the ſmalleſt goes to the *Ovarium*; the biggeſt divides into three more, of which one is beſtowed upon the Womb, another upon the *Vagina*, and the third upon the Ligaments of the Womb, and *Tubæ Fallopianæ*. 'Tis the ſame as to the Veins. The *Ovaria* are tied about two Fingers diſtance from the bottom of the Womb by the *Ligamenta lata.* They are fixed to the *Peritonæum* at the *Ilia*, by the ſpermatick Veſſels. They are of an oval Figure, a little flat upon their upper Part, where the ſpermatick Veſſels enter. The *Ovaria*, or Teſticles, are half as big as Mens are: Their Surface is unequal and wrinkled in old Women, but ſmooth and equal in Maids. They are covered with a proper Membrane, which ſticks cloſe to their Subſtance; and with another, common from the *Peritonæum*, which covers all the ſpermatick Veſſels. Their Subſtance is compoſed of Fibres and Membranes which leave little Spaces, in which there are ſeveral ſmall Veſicles, round and full of Water; and which being boiled, hardens like the white of an Egg. They have each of them two proper Membranes, upon which there are ſeveral ſmall Twigs of Veins, Arteries and Nerves. Theſe Veſicles are called Eggs, and they are of a different ſize and number in Women of different Ages. It has been obſerved in Cows, that ſuch of them as are impregnated after Copulation, are contained or covered all over with a yellow Subſtance, which has a ſmall Hole in its Side, thro' which they are thruſt when they fall into the *Tubæ Fallopianæ*. Beſides the ſpermatick Veſſels, the *Ovaria* have Nerves from the *Intercoſtals* and *Lymphaticks*, which diſcharge themſelves into the common Receptacle.

The *Tubæ Fallopianæ* are ſituated on the right and left Side of the Womb. They riſe from its bottom by a narrow beginning, and they dilate in form of a Trumpet to the Extremities, where they are contracted again into a ſmaller Orifice, from whoſe Circumference they dilate into a pretty broad Membrane, which looks as if it were torn at the Edges, and therefore is called *Morſus Diaboli*. Their Cavity, where they open into the Womb, will ſcarcely admit of a Hog's Briſtle; but at its wideſt Part it will take in the End of one's little Finger. Their Subſtance is compoſed of two Membranes, which come from the external and internal Membranes of the Womb. The *Tubes* are about four or five Fingers breadth long: They have the ſame Veins, Arteries, Nerves, and Lymphaticks, as the *Ovaria*.

In the Act of Generation, the Pleaſure is ſo great, as to alter the Courſe of the Blood, and animal Spirits, which then move all theſe Parts that before lay ſtill. The *Clitoris* is erected, which by its exquiſite Senſe affords a great deal of Delight. The Glands about the Neck of the Womb being preſſed by the ſwelling of the neighbouring Parts, pour forth a Liquor to facilitate the Paſſage of the *Penis*, and to increaſe the Pleaſure. The Neck of the Womb contracts and embraces cloſely the Yard; the Fibres of the Womb contract and open its Mouth, which at other times is extremely cloſe, for the reception of the ſpirituous part of the Seed; and the Branches of the ſpermatick Artery which runs upon the *Ligamenta lata*, between the *Ovaria* and *Tubæ Fallopianæ*, being diſtended with Blood, contract and pull the Extremities of the *Tubes* to the *Ovaria*, for carrying the Seed to them. The Seed impregnates the Egg, which from being tranſparent, becomes opake ſome time after; 'tis covered with a thick and yellow Subſtance, which preſſes it on all Sides, and thruſts it out thro' a little Hole in its middle; ſo it falls into the Orifices of the *Tubes*, which dilate ſufficiently for its Paſſage into the Womb. Some, partly conſidering the Cloſeneſs of the Mouth of the Womb, and partly the Thickneſs of the Membranes of the *Ovaria* and *Ova*, do judge it impoſſible for the Seed to paſs this way; therefore they think it is taken up by the Veins which open in the Cavity of the *Vagina* and *Matrix*, where circulating, it ferments with the Maſs of Blood; from whence come all the Symptoms which appear in Conception. It enters and impregnates the Egg by the ſmall Twigs of Arteries which are upon its Membranes. This Fermentation ſwells the Membranes of the *Tubes*, opens the Cavity of the Womb, and makes every thing ready for the reception of the Egg. See *Fœtus* and *Conception.*

Geniculi, are the Knots which appear in Herbs; and therefore Botaniſts call thoſe ſo marked *Geniculate Plants.*

Genioglossi, is a pair of Muſcles proceeding inwardly from the forepart of the lower Jaw under another pair called *Geniohyoides*, and enlarging themſelves, are faſtened into the Baſis of the Tongue. Theſe ſerve to pull the Tongue forward, and to thruſt it out of the Mouth; thus called from γένυς, *Mentum*, the Chin, and γλῶσσα, *Lingua*, the Tongue.

Geniohyoidæus, is a Muſcle of the *Os Hyoides*, which with its Partner is ſhort, thick, and fleſhy, ariſing from the internal Parts of the lower Jaw-Bone, called the Chin; and dilating themſelves, are ſoon leſſened again, and inſerted into the ſuperior part of the Fore-Bone of the *Os Hyoides.* Theſe pull upwards and forwards the *Os Hyoides*, and aſſiſt the *Genioglossi* in thruſting the Tongue out of the Mouth; from γένυς, *Mentum*, the Chin, the Greek *Upſelon*, and εἶδος, *Forma*, Shape.

Genital, is applied to any thing that concerns Generation, and particularly to the diſtinct Parts of Males and Females.

Genius, is variouſly uſed; but in Phyſick and Medicine, chiefly to expreſs the particular Nature of any Body or Diſtemper.

Gentilitious, is by ſome uſed in the ſame Senſe as Hereditary, for Diſeaſes which are propagated from Parents to Children.

Genus is a Term more uſed in Logick than Phyſick: however in natural Philoſophy ſome make three *Genera Generaliſſima*, which are Minerals, Vegetables, and Animals; and Botaniſts range Plants under certain *Genus's*, or *Genera*, wherein all agree in ſome common Properties.

Germen. is the Bud of any Plant. Whence

Germination, is the growing or ſprouting out of any Vegetables.

Geſtation, is the time of a Woman's going with Child; from *geſto*, to bear.

Ghittageman, a Name given by ſome Writers to Gamboge.

Gialappa and *Gialapium*, are by ſome Authors uſed for Jallap.

Gibbous, from *gibbus*, hump-back'd, is any Protuberance or Convexity having Reſemblance thereunto.

Gilla, is an *Arabick* Word for Salt; but now uſed particularly for the emetick Salt of Vitriol.

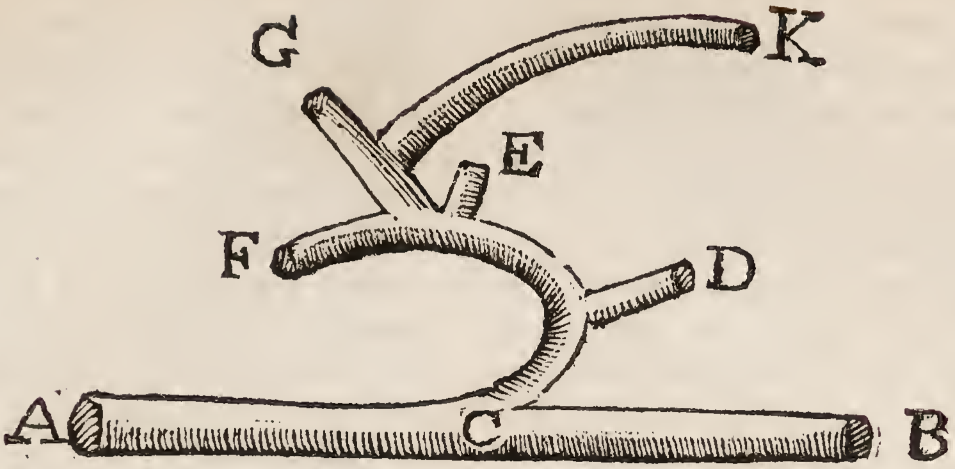
Gingivæ, the Gums, are a hard ſort of Fleſh formed by the Union of two Membranes, one of which is a Production of the *Perioſteum*, and the other of the internal Membrane of the Mouth. They are ſet about the Teeth, to keep them firm in their Sockets.

Ginglymus, is a ſort of Articulation when a Bone both receives and is received; and the Property of this ſort of Articulation is to admit only of the Motions of Flexion and Extenſion. It is called by Mechanicks, *Charnel*, and it is commonly uſed in Hinges. Of this Articulation there are three ſorts. The firſt is when the End of a Bone has two Protuberances, and one Cavity; and the End of a Bone which is articulated with it has two Cavities and one Protuberance; as the *Humerus* and the *Ulna*. The ſecond is when a Bone at one Extremity receives another Bone, and at its other Extremity is received by the ſame Bone, as the *Radius* and *Ulna*. The third ſort is when a Bone at one End receives another Bone, and at the other End is received by a third Bone, as the *Vertebræ* do.

Given. See *Data*.

Gland: All the Glands of a human Body are by Anatomiſts reduc'd to two ſorts, *viz.* Conglobate and Conglomerate. A conglobate Gland is a little ſmooth Body, wrapped up in a fine Skin, by which it is ſeparated from all the other Parts, only admitting an Artery and Nerve to paſs in, and giving way to a Vein and excretory Canal to come out. Of this ſort are the Glands in the Brain, the *Labial* Glands, and *Teſtes*. A conglomerate Gland is compoſed of many little conglobate Glands, all tied together, and wrapped up in one common Tunicle or Membrane. Sometimes all their excretory Ducts unite and make one common Pipe, thro' which the Liquor of all of them runs, as the *Pancreas*, and *Carotides* do. Sometimes the Ducts uniting, form ſeveral Pipes, which only communicate with one another by croſs Canals, and ſuch are the Breaſts. Others again have ſeveral Pipes, without any Communication with one another; of which ſort are the *Glandulæ Lachrymales*, and *Proſtatæ*. And a fourth ſort is, when each little Gland has its own excretory Duct, thro' which it tranſmits its Liquor to a common Baſon, as the Kidneys.

The Antients thought that the Glands were Ciſterns which contained certain Liquors, by which the Blood being fermented, threw off the Humours refin'd in the excretory Ducts. But as theſe Ferments muſt mix with the Blood, ſo they muſt be exhauſted and carried off by the Blood into Veins. And becauſe all the Liquors in the Body are ſeparated from the Blood, there muſt be another Ferment to ſeparate more: but this ſecond Ferment is liable to the ſame Fate as the firſt; and therefore there muſt be an infinite Series of Ferments in the Body, which is abſurd. If it ſhould be ſaid, that the Ferments are not carried off with the Blood, they muſt be ſtopped by the Structure of the Glands: But then there will be a Secretion without a Ferment, which is now the common Opinion. Some think the Glands are Tubes, whoſe Orifices differing in Figure, admit only Bodies of ſimilar Figures to paſs thro' them. But this Opinion is demonſtrably falſe: for beſides that Liquors are ſuſceptible of all Figures, and that Bodies, of any Figure, and a leſſer Diameter than that of the Gland, will paſs thro'; and that even a Body of a ſimilar Figure, and equal Diameter with that of the Orifice of the Glands, may be preſented innumerable ways, and not be able to paſs thro' whilſt there is only one way it can paſs: all the Veſſels in the Body are Conical or Cylindrical, and conſequently there is no difference in the Figure of their Orifices. For the preſſure of a Fluid being always perpendicular upon the ſides of the Veſſel that contains it, and equal at equal Heights of the Fluid, if the ſides are ſoft and yielding, they muſt be equally diſtended; that is to ſay, a Section perpendicular to the Axis of the Veſſel muſt be a Circle, and conſequently the Veſſel be either Cylindrical or Conical. This is agreeable to the Accounts of the niceſt Anatomiſts, who tell us that a Gland is nothing elſe but a Convolution of ſmall Arteries, whoſe laſt Branches are Cylindrical, or, which is the ſame thing, part of an infinitely long Cone. A Gland therefore being nothing but a Branch of an Artery, whoſe fartheſt Extremity becomes the excretory Duct of the Gland, it is next to be known how ſuch a Structure can ſeparate from the Blood only ſome parts of it; and how different Glands may ſeparate different parts of the Blood. If ſuch a Fluid is to be drawn off, as conſiſts of the ſmalleſt Particles of the Blood, let that Orifice of the Gland, which is inſerted into the Artery of which it is a Branch, be ſo ſmall as to admit only the ſmalleſt Particles of the Blood; then theſe, and theſe only will enter this Gland, and the Fluid which paſſes out at the other Extremity of the Tube, or the excretory Duct, muſt be ſuch as is required. If the Particles of the Blood, which are of the next Size or Magnitude, are required to be ſeparated, let the Orifice of the Gland be ſo big as to receive thoſe ſecond Particles, but ſmall enough to exclude all bigger Particles; then theſe ſecond Particles, together with the firſt or ſmalleſt, will enter the Gland: but becauſe the Liquor to be ſecerned is to conſiſt only of the ſecond ſort of Particles, that is, the ſecond ſort of Particles only are to flow out at the Extremity of the Tube, which is the excretory Duct, therefore we are to ſuppoſe, that this Gland, (which is only a Branch of an Artery, and differs in nothing from a common Artery, but in the Narrowneſs of its Channel) has Branches which are big enough to receive the ſmalleſt Particles only, and carry them off into the Veins: ſo that as both ſorts of Particles move together along the Gland, the ſmalleſt Particles will paſs off thro' its Branches, and a Fluid conſiſting chiefly of the ſecond ſort of Particles, will arrive at the excretory Duct. Thus the number of Branches may be ſo great as to draw off moſt of the ſmalleſt Particles, before the ſecond ſort of Particles arrive at the excretory Duct; ſo the Liquor to be ſecerned, may conſiſt of both theſe ſorts of Particles mix'd together, in any Proportion, according to the Number of Branches. If a Fluid conſiſting of a third ſort of Particles, larger than either of the former, is to be ſecerned, the Orifice of the Gland muſt be juſt big enough to admit ſuch Particles, and none bigger; and the Branches of the Gland muſt be ſmall enough to exclude the biggeſt Particles, and big enough to receive the leſſer: and according as the Number of Branches is either greater or ſmaller, the Fluid which runs out at the excretory Ducts will conſiſt either of the largeſt Particles, or of all together mix'd in any Proportion. And thus we may underſtand how



a Liquor thicker than the Blood, may be ſtrained off from the Blood, if the Orifice of the Gland be ſo big, as to admit Particles of any Sizes, and the Branches ſo nume-rous as to draw off the thinner Parts before the thicker arrive at the excretory Duct.

But this may be better illuſtrated by the following Diagram: Suppoſe *A B* to be a ſmall evaneſcent Artery, and that the Particles of the leaſt Size were to be ſeparated from the reſt. From the ſide of the Artery let the Tube *C K* ariſe, whoſe Orifice at *C* is ſuch as is capable of admitting Particles of the leaſt Size, together with the aqueous Fluid; theſe therefore will be ſeparated from all the other Particles of the Blood, and the Tube *C K* being a Cylinder, they will paſs to its further end *K*, which is ſuppoſed to be the excretory Duct of the Gland. If the Quantity of the aqueous Fluid, ſeparated with the leaſt Particles, muſt be diminiſhed; that ſuch a Fluid as is requiſite may paſs thro' the excretory Duct *K*, from the Tube *C K*; you muſt imagine that ſeveral other ſmaller Canals go out, as *D*, *E*, *F*, and *G*, whoſe Orifices are ſo ſmall, that they admit no other Particles, beſides thoſe of the aqueous Fluid, to paſs thro' them: and therefore as the leaſt Particles, together with the aqueous Fluid, paſs along the Tube *C K*, the aqueous Fluid muſt conſtantly be diminiſhed; and the Quantity of the leaſt Particles ſtill remaining, can paſs no where but at the excretory Duct *K*. And this Diminution of the aqueous Fluid will always be according to the Number of Canals *D*, *E*, *F*, *G*, that is, in proportion to the length of the Tube *C K*. And therefore as the Gland is longer or ſhorter, ſo the more or leſs aqueous Fluid will paſs thro' the Orifice of the excretory Duct *K*; and conſequently the ſecreted Fluid upon this account be thicker or thinner. If Particles of a middle Size are to be drawn off, let the Orifice at *C* be juſt big enough to admit thoſe Particles, and not any bigger. Theſe Particles with the aqueous Fluid, will paſs the Orifice *C*; but if the Canals *D*, *E*, *F*, *G*, are big enough to receive all the other Particles, and too little to admit thoſe to be ſeparated, they muſt arrive at the excretory Duct *K*, with what proportion of leſſer Particles is required. And thus any Particles may be drawn off, either by themſelves, or mixed with any other in any proportion; and this only by Arteries: for *C K* is only a ſmaller Artery, ſtrait, or ſpiral, or contorted; and *D, E, F, G*, are again Arteries ſmaller than it; and if any of theſe are ſo ſmall, as only to admit Particles of *Serum*, they will conſtitute *Lymphatick* Veſſels: from whence it is that we find *Lymphaducts* ariſing in great numbers from thoſe Glands which ſeparate thick Humours, as from the Teſticles, Liver, *&c.*

After this manner the ſeveral Humours in the Body may be ſeparated by Glands from the Blood, which muſt either be compoſed of ſo many Humours as are ſeparated from it, or elſe it muſt contain a few Principles, which mixed all together, form the Blood, and which variouſly combined form the different Humours which are drained from it: as a few Rays of Light, of different Refrangibilities, mixed all together, produce a white Colour, but variouſly combined, exhibit all imaginable Variety of Colours. It is not at all probable, that the Blood, in which we diſcern but two diſtinct Parts, ſhould be compoſed of near thirty ſimple Humours; for ſo many do the Glands ſecern from it. Nor is it agreeable to that Simplicity which Nature conſtantly affects in all her Operations. The Principles of all natural Bodies are ſaid not to exceed five; and how prodigious is the Variety that reſults from their different Mixtures and Modifications? If we ſuppoſe likewiſe but five Principles, or different Particles in the Blood, their Combinations alone, without different Modifications and Proportions, will yield near as many different Humours as are ſeparated from the Blood. And it is matter of Fact, that Urine, Sweat, Tears, Spittle, and Milk, are compound Liquors, and that in each of them there are Parts common to all of them. And if the Compoſition of ſome other Humours of the Body is not ſo apparent, it does not the more follow from thence that they are not compounded, than it does that the Blood is not, becauſe we do not perceive it in the ſeveral Humours which are ſeparated from it by the Glands. Since therefore the ſeveral Humours are formed by the various Combinations of a few Particles which compoſe the Blood, and that each Humour is ſecerned by Glands, placed for the moſt part in ſome one part of the Body, as the Gall which is ſeparated from the Liver, and the Urine in the Kidneys, the Particles of the Blood muſt fall into ſuch Combinations as are fit to form Gall at the Liver, Urine at the Kidneys, and ſo of the others; otherwiſe the Glands could never ſeparate from the Blood ſuch Humours. And as all the Humours are compoſed of a few different Particles, the greater will be the Number of Particles combined to form Bile; and the greater Quantity of Bile will be ſecerned, the fewer there are of all other Combinations at the Liver. Such Combinations therefore as are fit to form the Humours proper to paſs thro' the Glands, where theſe Combinations are formed, being there only requiſite, will be there moſt numerous; and all others being there leſs requiſite or uſeleſs, will be there leſs numerous. And therefore wherever the Particles of Blood are moſt diſſolved, there will be placed ſuch Glands as ſeparate Humours which conſiſt of the moſt ſimple Combinations, or of Particles which do the moſt eaſily combine; and at the gteateſt diſtances from theſe, will be ſituated the

Glands which ſecern Humours conſiſting of the moſt compound Combinations, or of Particles which do the moſt ſlowly unite. And between theſe will be all other Glands, which according to either Extreme will ſeparate Humours more or leſs combined, or compounded of Particles which do more quickly or ſlowly combine together. By the thinneſs of the Liquor in the *Pericardium,* and of the Liquor which paſſes thro' the Kidneys, the Particles of the Blood ſeem to be moſt diſſolved at and about the Heart. Here we not only find the Effects of this Diſſolution in the Secretions, but likewiſe the Cauſe of it, the Force of the Air in Reſpiration breaking the Globules of the Blood; which Force is demonſtrable to exceed the Preſſure of 100 Pounds weight upon the Surface of the Lungs. Nor is it evident only from the Cauſes and Effects, that the Blood is here moſt diſſolved, but likewiſe from the Methods which Nature takes to prevent the Effects of this Diſſolution, in ſome particular Places at a little diſtance from the Heart: for the Bile and Seed being thick Humours, compoſed of Particles which combine but ſlowly together, and it being requiſite that they ſhould be ſecerned where the Liver and Teſticles are placed; Nature has made uſe of particular Contrivances, to give the Particles which were to form thoſe Humours, more time to combine, than they could have had otherwiſe, being ſo near to the Heart. For the Formation of the Bile, ſhe has contrived the *Vena Portæ,* and the Spleen; thro' the firſt, the Blood moves near 200 times ſlower, and thro' the laſt altogether as much, than otherwiſe it would have done. And that the Particles which form the Seed might have time to combine, the Orifices of the ſpermatick Arteries are contracted; and they likewiſe ariſe from the *Vena Cava,* a little below the Emulgents, at a great diſtance from the Teſticles, contrary to the common Courſe of Nature; by which means the Blood is 150 Times longer in going to the Teſticles than otherwiſe it had been. At the greateſt Diſtances from the Heart, the viſcous Liquor of the Joints is ſecerned; and ſome Liquors whoſe Parts require no Combination, as the *Lympha,* may be ſecerned any where. All theſe different Combinations, which form ſo many diſtinct Fluids, ariſe from an attractive Power in the Parts of Matter, which tho' it be equally diffuſed thro' the whole Maſs, yet according to the different Denſities of Particles, and the Figures of their Parts, ſome ſorts of Particles will be ſoon united, while others require a longer time to be joined together; ſome will cohere more firmly than others, and Particles of one kind will have a greater tendency to unite with thoſe of another ſort, in a certain Portion of their Surface than in any other. See *Attraction,* and *Animal Secretion.* Dr. *Keil* gives the following Liſt of the different ſorts of Glands.

1 *Cerebri.*
2 *Plexus Choroidei.*
3 *Sebaceæ.*
4 *Meatus Auditorii.*
5 *Ciliares.*
6 *Lachrymales.*
7 *Humorem Aqueum*
8 *Cryſtallinum*
9 *Vitreum*
10 *Atrum Choroidis*
Secernentes.
11 *Naſales.*
12 *Buccales, Labiales, Palatinæ.*
13 *Parotides, Maxillares, Sublinguales.*
14 *Tonſillarum.*
15 *OEſophagi.*
16 *Aſperæ Arteriæ.*
17 *Pericardii.*

18 *Mammarum.*
19 *Ventriculi.*
20 *Inteſtinorum.*
21 *Pancreatis.*
22 *Hepatis.*
23 *Veſicæ Fellis.*
24 *Renum.*
25 *Renales.*
26 *Ureterum.*
27 *Veſicæ Urinariæ.*
28 *Urethræ.*
29 *Teſticulorum.*
30 *Proſtatarum.*
31 *Uteri.*
32 *Vaginæ.*
33 *Lymphaticæ.*
34 *Pinguedinales.*
35 *Medullares.*
36 *Artuum.*
37 *Cutis Milliares.*

Glandulæ Lachrymales. See *Carunculæ Lachrymales*, and *Eye.*

Glandulæ Myrtiformes. See *Generation Parts of, proper to Women.*

Glandulæ Odoriferæ. See *Generation Parts of, proper to Men.*

Glandula Pituitaria. See *Brain.*

Glandulæ Renales. See *Capſulæ Atrabilares.*

Glandulæ Sebaceæ. See *Ear.*

Glanduloſum Corpus. See *Proſtatæ.*

Glans. See *Generation Parts of, proper to Men.*

Glaſs, an artificial Subſtance made by fuſing fix'd Salts, and Flint or Sand together, with a vehement Fire. It is poiſonous when taken internally, unleſs it be fine ground, becauſe the ſharp Points of it prick, tear, and wound the Inteſtines, cauſing Inflammation, and in time a Gangrene or Mortification therein. But when reduc'd to an impalpable Powder, its internal Uſe is ſaid to be very ſafe, and attended with no ill Conſequence.

Glaucoma, from γλαυκὸς, *Cæſius*; is a Fault in the Eye, which changes the Cryſtalline Humour into a greyiſh Colour. *Glaucoſis* is the ſame; and both in general ſignify a Change of Colour in the Eye without detriment of Sight, and therein differ from what is commonly underſtood by Suffuſion. Γλαυκὸς is alſo by ſome applied to a whitiſh Urine, that hath Films in it like tranſparent Horn.

Glene, γλήνη, ſtrictly ſignifies the Cavity or Socket of the Eye; but by ſome Anatomiſts is alſo uſed for that Cavity of a Bone which receives another within it: hence

Glenoides, from the former, and εἶδος, *Forma*, Shape; are two Cavities in the lower Part of the firſt *Vertebræ* of the Neck.

Gliſcere, to kindle, properly as Fire does; but by Phyſical Writers is ſometimes applied to the natural Heat, and Increaſe of Spirits; and by others, to the Exacerbation of Fevers, which return periodically.

Globules, are ſuch ſmall Particles of Matter as are of a globular or ſpherical Figure: as the red Particles of the Blood, which ſwim in a tranſparent *Serum*, and are eaſily diſcovered by the Microſcope; and it is pleaſant to ſee how theſe will attract one another, when they come within a due diſtance, and unite like the Spheres of Quickſilver.

Globulus Naſi, is the lower cartilaginous moveable Part of the Noſe.

Glottis, from γλῶσσα, *Lingua*, the Tongue; is that Chink of the *Larynx* that lies at the Root of the Tongue, and which is covered by the *Epiglottis.*

Glutæus, from γλουτὸς, *Nates*, the Buttock. There are three Muſcles of this Name which extend the Thigh; the firſt is *Glutæus major*, or the greater, which ariſes ſemicircularly from the *Os Coccygis*, the Spines of the *Sacrum*, the Spine of the *Ilium*, and from a ſtrong Ligament that runs between the *Sacrum* and Tubercle of the *Iſchium*; and deſcending, it is inſerted into the *Linea Aſpera*, four Fingers breadth below the great *Trochanter*. The *Medius*, or the Middle, ariſes from the Spine of the *Ilium* under the former, and is inſerted into the ſuperior and external Part of the great *Trochanter*. And the *Minor*, or the Leſſer, ariſes from the lower Part of the external ſide of the *Ilium*, under the former, and is inſerted at the ſuperior Part of the great *Trochanter*.

Gnidius, is applied by *Hippocrates*, and others ſince, to ſome medicinal Precepts wrote in the Iſland of *Gnidos*. Bay-Berries alſo, or ſomewhat near thereunto, are by ſome called *Cocci Gnidii*, from their Plenty in that Iſland.

Goldbeater's-skin, is the *inteſtinum rectum* of an Ox, which Goldbeaters lay between the Leaves of their Metal while they beat it, whereby the Membrane is reduc'd thin, and made fit to apply to Cuts or ſmall freſh Wounds, as it is now the common Practice.

Gomphoſis, from γομφόω, *Clavum impingo*, to drive in a Nail, is a particular kind of Articulation, like the driving a Nail into any thing, as the *Molares* are into the Bones of the Jaws; and hence

Gomphioſis, is a Diſtemper of the Teeth, which makes them looſe, and ready to drop, according to *Dioſcorides*: but *Hoffman* juſtly enough changes that Term into ἀγομφίασις; the privative Particle expreſſing that Defect.

Gonagra, from γόνυ, *Genu*, the Knee, and ἀγρεύω, *capio*, to take, is the Gout in the Knee.

Gonorrhœa, from γονὴ, *Genitura*, or *Semen*, the Seed, and ῥέω, *fluo*, to flow; antiently uſed for any involuntary Emiſſion of Seed, but now only for a weeping of Matter from ulcerated Glands. The *Proſtatæ* are the Seat of it in Men, as the *Lacunæ* are in Women; for which ſee the Parts of *Generation* proper to both Sexes. Its Cure conſiſts in cooling and deterging, with Diureticks and Balſamicks.

Gonorrhœa Cordata. See *Chordé*.

Gout: This is a Diſtemper better known than underſtood. Dr. *Keil* ſays, that the equal Celerity of the Particles of the Blood in the Extremities, is likewiſe the reaſon why the Concretions of the Gout are form'd there; unleſs by frequent Debauches or Decay of Nature, the Motion of the Blood becomes ſo languid, that theſe Particles eaſily attract one another in the Blood-Veſſels of the Bowels, where the Motion of the Blood is alſo very ſlow: And then ſuch Remedies as warm and increaſe the inteſtine Motion of the Blood, and thereby diſturb the Attraction of the gouty Particles, relieve the Bowels, and ſend the peccant Matter back again to the Extremities. But on this Subject I have ventured to publiſh ſome Thoughts in an Eſſay annexed to the Second Edition of the Explanations of *Sanctorius*'s Aphoriſms, and which was before promiſed under this Term in the Firſt Edition of this *Lexicon*.

Gracilis, is a Muſcle of the Leg, thus called from its ſlender Shape. It ariſes partly tendinous, and partly fleſhy, from the *Os Pubis* internally, between the firſt and ſecond Heads of the *Triceps*; and in its deſcent in the inſide of the Thigh, it grows narrow, and becomes tendinous, a little below the *Sartorius*, and is ſo inſerted into the *Tibia*. It aſſiſteth in bringing the Thigh and Leg inwards.

Gramineous Herbs, amongſt Botaniſts are ſuch as have a long narrow Leaf, and no Foot-ſtalk: And theſe are reckon'd *Frumentaceous*, whoſe Seed is uſed for Food, either in Bread, Drink, or Broth; ſuch as Wheat, Rye, Barley, &c. or not *Frumentaceous*, more properly called Graſſes, which have an hollow jointed Stalk, not branched, and a ſtamineous Flower.

Granivorous, from *Grana*, Corn, and *voro*, to devour; are thoſe Animals which feed upon Corn, or any other Seeds.

Granulation, in Chymiſtry, ſignifies pouring of melted Metal into cold Water, ſo as it may granulate, or congeal into ſmall Grains. It is generally done thro' a Colander, or a Birchen-Broom. Gun-powder, and ſome Salts, are likewiſe ſaid to be granulated, from their Reſemblance to Grain, or Seed.

Gravida, a Woman is ſaid to be ſo while ſhe goes with Child.

Gravity, and as ſome call it, the *Vis Centripeta*, is that Quality by which all heavy Bodies tend towards the Centre of the Earth, accelerating their Motion the nearer they move towards it. About the Cauſe of this wonderful and univerſal Affection of Matter, there have been endleſs Conjectures; but a true Philoſophy, that teaches what is not within our Capacities, as well as what is knowable, has ſhewn this to be unſolvable by any philoſophical Hypotheſis, and reſolv'd it into the immediate Will of the Creator. Of all Bodies conſider'd within the Confines of any Fluid, there is a twofold Gravity, True and Abſolute; and Apparent, Vulgar, or Comparative. Abſolute Gravity is the whole Force by which any Body tends downwards; but the Relative, or Vulgar, is the Exceſs of Gravity in one Body above the ſpecifick Gravity of the Fluid, whereby it tends downwards more than the ambient Fluid doth. In reference to abſolute Gravity, the Parts of all Fluids and all Bodies do really gravitate in their proper Places, and therefore by their joint Weights do make the Weight of the whole: For every heavy Whole is a heavy Body, as we find in Veſſels filled with all kinds of Liquors; and the Weight of any Whole is equal to, becauſe compounded of, the Weight of all its Parts. The latter kind of Gravity is ſuch, that in reference to it, Bodies do not gravitate in their Places, or rather do not, when compared with one another, pre-graviate; but by hindering one another in their mutual Endeavour to deſcend, do remain in their proper Places, all one as if they were not heavy at all. Thoſe things which do not pre-gravitate in the Air, Water, &c. the Vulgar take to have no Gravity; and only judge thoſe to be heavy Bodies, which they ſee pre-gravitate or deſcend, becauſe they cannot be ſupported by the ordinary Gravitation of the Fluid, or by its Preſſure all manner of ways. So that the Notion of Weight amongſt the Vulgar, is only the Exceſs of any Body's Weight above that of Air: And conſequently they account thoſe things to be light, which being leſs heavy than Air, are ſupported by it, or buoyed up in it: whereas thoſe comparitively light Bodies are not ſo really, ſince *in vacuo* it is found by Experiment, that they deſcend as faſt as other heavy Bodies do in Air.

The Properties of Gravity are thus enumerated: 1. That all Bodies deſcend towards a Point, which either is, or is very near to, the Centre of Magnitude of the Earth and Sea, about which the Sea forms it ſelf into a ſpherical Surface; and the Prominences of the Land, conſidering the Bulk of the whole, differ but inſenſibly therefrom. 2. This Point, or Centre, is fixed within the Earth, or at leaſt hath been ſo ever ſince we have had any authentick Hiſtory: For a Conſequence of its ſhifting, tho ever ſo little, would be the overflowing of the low Lands on that Side of the

Globe towards which it approached. And this it is thought would well account for the univerſal Deluge, to have the Centre of Gravitation removed for a time towards the middle of the then inhabited World: for the Change of Place but the 2000th Part of the *Radius* of our Earth, would be ſufficient to lay the Tops of the higheſt Hills under Water. 3. In all Places equidiſtant from the Centre of the Earth, the Force of Gravity is nearly equal. But indeed all Places of the Earth's Surface are not at equal Diſtances from the Centre; becauſe the equatoral Parts are ſomething higher than the polar Parts: the Difference between the Earth's Diameter and Axis being about 34 *Engliſh* Miles, which hath been proved by the Neceſſity of making a *Pendulum* ſhorter in thoſe Places before they will ſwing Seconds. 4. Gravity equally affects all Bodies, without regard either to their Bulk, Figure, or Matter: So that abſtracting from the Reſiſtance of the *Medium*, the moſt compact and looſe, the greateſt and ſmalleſt Bodies would deſcend equal Spaces in equal times, as appears from the quick Deſcent of very light Bodies in the exhauſted Receiver. Whence a very great Difference may be obſerved between Gravity and Magnetiſm; the latter affecting only Iron, and that towards its Poles; the former all Bodies alike in every Part. Hence alſo may be concluded that there is no ſuch thing as poſitive Levity, thoſe things which appear light being only comparatively ſo. And whereas ſeveral things riſe and ſwim in Fluids, 'tis only becauſe they are not, Bulk for Bulk, ſo heavy as thoſe Fluids: Nor is there any reaſon why Cork, for inſtance, ſhould be ſaid to be light, becauſe it ſwims on Water, any more than Iron, becauſe it will ſwim on Mercury. 5. This Power increaſes in deſcending, and decreaſes in aſcending from the Centre of the Earth, and that in proportion to the Squares of the Diſtances therefrom reciprocally; ſo as for inſtance, at a double Diſtance to have but a Quarter of the Force, *&c.* which is highly agreeable to Reaſon, becauſe the gravitating or attractive Power muſt needs be exerted more vigorouſly in a ſmall Sphere, and more feebly in a greater, in proportion as it is contracted or expanded. Wherefore ſeeing the Surfaces or Spheres are to one another, as the Squares of the *Radii*, their Power at ſeveral Diſtances will be as the Squares of thoſe Diſtances reciprocally; and then its whole Action upon each ſpherical Surface, be it great or ſmall, will be always equal.

Gravedo, is that Weight or Liſtleſſneſs, which accompanies a leſſened Tranſpiration, or taking cold, as it is commonly called; and as it is frequently accompanied with a running of the Noſe and Eyes, it is uſed for a *Coryza*, which expreſſes the ſame.

Groſſus, is a barbarous Term uſed by ſome Writers for the ſame as *Craſſus*, groſs, for things coarſly poudered; and ſome are ſo nice as to diſtinguiſh between *Groſſus* and *Viſcoſus*, as Lute is different from Glue.

Grume, is a thick viſcid Conſiſtence of a Fluid, like what we call ropy, as the White of an Egg, or clotted like cold Blood. And hence,

Grumous Blood, is that which is too thick for Circulation, and ſtagnates.

Grus, a Crane, is a Surgeon's Inſtrument, reſembling the Beak of a Crane.

Gum, is a vegetable Subſtance differing from a Reſin in being more viſcid, and leſs friable, and generally diſſolving in aqueous *Menſtruums*; whereas Reſins being more ſulphurous, require a ſpirituous Diſſolvent.

Gummata, Strumous Tumours are ſometimes thus called from the Reſemblance of their Contents to gummous Subſtances.

Gums. See *Gingiva*.

Gutta Roſacea, Roſe-drop, is an Eruption upon the Skin, chiefly in the Face, which marks it with red Blotches or Wheals of a red colour.

Gutta Serena. See *Amauroſis*.

Gutteta, from *Goutte*, which in *French* ſignifies a Convulſion; is a compound Pouder, ſo called from its Virtues againſt ſuch Diſtempers. *Riverius* hath the Reputation of being its Author, or firſt Publiſher, after it had obtained great Eſteem at *Montpelier*, where it was firſt made an officinal Medicine; but our *College* have now conſiderably altered it.

Guttur, the Throat; what is properly thus called is the *Larynx*; which ſee.

Gutturis Os, the ſame as *Os Hyoides*; which ſee.

Gymnaſtick, from γυμνάζω, *exerceo*, to exerciſe; is ſuch a Method of Cure as is performed by Exerciſe, or that part of Phyſick which treats of the Rules that are to be obſerved in all ſorts of Exerciſes, for the Preſervation of Health. This is ſaid to have been invented by one *Herodicus*, born at *Salymbra*, a City of *Thrace*; or, as ſome ſay, at *Leutini* in *Sicily*. He was firſt Maſter of an Academy where young Gentlemen came to learn warlike and manly Exerciſes; and whom he obſerving to be very healthful on that account, he made Exerciſe become an Art, in reference to the recovering Men out of Diſeaſes, as well as preſerving them from them; and called it *Gymnaſtick*, which he made a great part of his Practice of Phyſick. But *Hippocrates*, who was his Scholar, blames him ſometimes for his Exceſſes in this kind of Phyſick. And *Plato* exclaims againſt him with ſome Warmth, for enjoining his Patients to walk from *Athens* to *Megara*, which is about 25 Miles, and to come home on foot as they went, as ſoon as ever they had but touched the Walls of the City. But to how much ſoever a blameable Exceſs this might be carried in thoſe times, the Province of Medicine was ſome while after ſo over-run with Enthuſiaſts, Chymiſts, and Jugglers, as to turn out all ſuch Practices; but by the Help of a ſounder Philoſophy the preſent Age has reſtored it again, and in due Limitations; inſomuch, that there are Hopes of ſeeing a great Multitude of nauſeous unprofitable Medicines give way to more efficacious and pleaſant Exerciſes; eſpecially in chronick Caſes, where there is very little but what may be directly effected by the *Gymnaſtick* Practice.

Gynæcomaſtos, by the antient Writers, hath been applied to Tumours of the Breaſts in Women; And,

Gynæcomaſtyx, ſignifies the Hair growing upon their Privy Parts.

H.

HAbit, is any particular Diſpoſition or Temperament of Body, obtained by Birth, or Manner of living. The Antients diſtinguiſhed ἕξις, a conſtant, permanent Habit, from διάθεσις, a preſent Diſpoſition; ſoon liable to alter.

Hæcceitas, is uſed by ſome Chymiſts in the ſame acceptation as their ſpecifick Eſſence, or active Principle by which a Medicine operates.

Hæmatops, is ſtrictly uſed by ſome for any bloody Suffuſion of the Eyes from external Injuries, or otherwiſe, as the Words from whence it is derived ſignify bloody Eyes. But *Hippocrates* uſes it frequently in a more lax Senſe, for any concreted or ſtagnant Blood.

Hæmatocele, αἱματοκήλη, a Blood-ſwelling, hath been uſed by ſome Antients for a Tumour turgid with Blood, from what cauſe ſoever.

Hæmatochyſis, αἱματοκύσις, is any preternatural flowing of Blood, whether critical or ſymptomatical; and is generally uſed in the ſame Senſe as *Hæmorrhage*. And,

Hæmoptoick, is a Perſon that ſpits Blood, from αἷμα, *Sanguis*, Blood, and πτύω, *ſpuo*, to vomit, or ſpit. It is generally from ſome Fault of the Lungs, the Extremities of the Blood-veſſels being wore off by ſharp Humours, or a thin Blood, ſo as to let out their Contents, and ſuffer it to be coughed up.

Hæmorrhage, from αἷμα, *Sanguis*, Blood, and ῥέω, *fluo*, to flow, or run out, is the burſting out of Blood from any Part whatſoever, occaſioned generally from a *Plethora*, and to be remedied by Evacuation; but if it be from an encreaſed Velocity of a thin Blood, Agglutinants are to be made uſe of, and Coolers.

Hæmorrhoids, from the ſame Derivation as the former, and εἶδος, *Forma*, Likeneſs; is a bleeding of the *Hæmorrhoidal* Veins. They alſo ſwell and inflame the Parts about them, without bleeding. See *Piles*.

Hæmorrhoidal Veins. See *Veins*.

Hair. The Hair may juſtly be reckoned one of the common Teguments of the Body, not only for its uſe, but alſo becauſe it is to be found upon all the Parts of the Body, except the Soles of the Feet, and Palms of the Hands. It grows longeſt upon the Head, Beard, in the Arm-pits, and about the Privities. When we examine the Hairs with a Microſcope, we find that they have each a round bulbous Root, which lies pretty deep in the Skin, and which draws their Nouriſhment from the ſurrounding Humours: That each Hair conſiſts of five or ſix others, wrapped up in a common Tegument or Tube. They grow as the Nails do, each Part near the Root thruſting forward that which is immediately above it, and not by any Liquor running along the Hair in Tubes, as Plants grow. Their different Colours depend much upon the different Temperaments and Qualities of the Humours that nouriſh them. The Uſe of the Hairs, is for a Covering and Ornament to the Body. Whatſoever the efficient Cauſe may be why a Man has a Beard, and a Woman none, it is certain the final Cauſe is for the diſtinguiſhing the Male from the Female Sex; which otherwiſe could hardly be known, if both were dreſſed in the ſame Habit.

Halation, is a purging Medicine prepared with Salt, and to be uſed at Table inſtead thereof; But we find little of this kind retained in the preſent Practice.

Halinitron, is uſed by the *Latin* Writers *Hoffman*, *Paracelſus*, and ſome others, for the common *Sal Nitri*, or *Salt Petre*.

Halmyrodes, ἁλμυρώδης, *Salſuginoſus*, is a Term given by *Hippocrates* to a particular Fever that is attended with ſharp brackiſh Sweats.

Halo, is the red Circle round the Breaſts of Women. Aſtronomers alſo take notice of a Meteor under this Name, in the Form of a Circle, round the Sun, Moon, or Stars, but more eſpecially the Moon.

Hamus, or *Hamulus*, is a Hook; and Surgeons make Uſe of an Inſtrument thus called, to extract the Child in difficult Labour, Figures of which are given by *Scultetus* in *Arm. Chirurg.* Part 1. Tab. 8, 15, 31, and 34.

Head. By Anatomiſts this is termed the upper *Venter*, and comes laſt in Diſſection, as the Contents are not ſo ſubject to Corruption. The Deſcriptions of the Parts ſee under their reſpective Names. But here it may not be amiſs to reckon the ſeveral Apertures therein, as they are taken notice of in Diſſection: Theſe are either external or internal. The external Holes are, 1. The two in the coronal Bone above the Artery, thro' which a Vein, Artery, and Nerve from the Ophthalmick Branch of the fifth Pair paſs, for the Brow and frontal Muſcles: This frequently appears only as a Notch. 2. The *Orbiter Internus* in the ſame Bone within the *Orbit*, a little above the *Os Planum*, for another Branch of the fifth Pair of Nerves, which goes to the Noſe. The 3d is between the *Os Unguis*, and the *Os Maxillare*, in the great *Canthus*, thro' which the *Ductus Lachrymalis* paſſes to the Noſe. 4. *Orbiter Externus* in the *Os Maxillare*, below the Orbit thro' which the Nerves and Veſſels which come from the Teeth paſs to the Cheek. 5. One ſingle Hole in the ſame Bone behind the Fore-teeth, which comes from the Noſe. 6. Two in the *Os Palati*, thro' which a Branch of the fifth Pair of Nerves paſſes to the Palate, *Uvula*, and Gums. 7. In the temporal Bone between the *Proceſſus Maſtoidæus*, and *Styliformis*, thro' which the *Portio Dura* of the auditory Nerves paſſes. 8. The *Ductus auditorius externus*. 9. The *Ductus auditorius internus*. 10. The Conduit of the *Carotidal* Artery. 11. In the ſame Bone thro' which a Vein paſſes from the external Teguments to the lateral *Sinus's*; that is, behind the *Proceſſus Maſtoidæus*. 12. In the *Occiptal* Bone behind its *Apophyſes*, thro' which the vertebral Veins paſs. 13. In the ſame Bone for a Branch of the external Jugular. 14. One ſingle large Hole for the *Medulla Spinalis*.

The internal Holes are, 1. The blind Hole above the *Criſta Galli*. 2. The Holes in the *Os Ethmoides*. 3. In the *Os Sphenoides* for the Optick Nerves. 4. The *Foramen Lacerum*, thro' which the third, fourth, and firſt Branch of the fifth and ſixth Pair of Nerves paſs. 5. For the ſecond Branch of the fifth Pair of Nerves. 6. For the third Branch of the ſame Nerves. 7. The *Foramen Arteriæ Duræ Matris*. 8. The Canal thro' which the *Carodital* enters, and the *Intercoſtal* paſſes out; but this was counted amongſt the external Holes. 9. The Proceſs of the *Os Temporum*, thro' which the auditory Nerve paſſes. 10. Between the temporal and occipital Bones: It is divided into two by the *Dura Mater*; thro' the one part paſſes the eighth Pair of Nerves, and the *Nervus Acceſſorius*; thro' the other the lateral *Sinus's* open into the internal Jugulars. 11. One on each ſide the large Hole of the *Occiput*, thro' which the ninth Pair of Nerves goes out.

Head-Ach. See *Pain.*

Head-mould-ſhot, is when the Sutures of the Skull, generally the Coronal; ride, that is, have their Edges ſhoot over one another: which is frequently the Caſe in Infants, and occaſions Convulſions and Death.

Health, is juſtly defined the Faculty of performing all the Actions proper to a human Body in the moſt perfect manner. And all the Effects of theſe Actions are ſuch as regard certain determined Motions, or the Change and Alteration of what is received into the Body.

Hearing. Sound is nothing but a certain Modulation of the external Air, which being gathered by the external Ear, paſſes thro' the *Meatus Auditorius*, and beats, as is ſuppoſed, upon the *Membrana Tympani*, which moves the four little Bones in the *Tympanum*. In like manner, as it is beat by the external Air, theſe little Bones move the internal Air, which is in the *Tympanum* and *Veſtibulum*; which internal Air makes an Impreſſion upon the auditory Nerve in the *Labyrinth* and *Cochlea*, according as it is moved by the little Bones in the *Tympanum*: So that according to the various Reflections of the external Air, the internal Air makes various Impreſſions upon the auditory Nerve, the immediate Organ of Hearing; and theſe different Impreſſions repreſent different Sounds. The curious Structure of the *Labyrinth* and *Cochlea* render the weakeſt Sounds audible; for the whole Organ of Hearing being included in a ſmall Space, had the auditory Nerve run in a ſtrait line, the Impreſſion had been made upon a very ſmall Part of it; and the Strength of the Impreſſion being, *cæteris paribus*, always as the number of Parts upon which the Impreſſion is made, Sounds which are now low, could not have been heard at all. If the auditory Nerve had, like the *Retina*, been expanded into a large Web, which had covered or lined ſome wide Cavity, the Impreſſions of Sounds even in this Caſe had been much weaker than they are now: For this large Cavity hath given room for the Sounds to dilate; and all Sounds grow weaker as they dilate. Both of theſe Inconveniencies are prevented by the preſent Structure of the *Labyrinth* and *Cochlea*, whoſe Canals, by their winding, contain large Portions of the auditory Nerve, upon every Point of which the ſmalleſt Sound being at once impreſſed, becomes audible; and by their Narrowneſs the Sounds are hindered from dilating: And the Impreſſions made upon the Nerves by the firſt Dilatations are always the ſtrongeſt. The Strength of the Impreſſion in narrow Canals is likewiſe encreaſed upon the account of the Elaſticity of the Sides of the bony Canal; which receiving the firſt and ſtrongeſt Impulſes of the Air, do reverberate them more ſtrongly upon the auditory Nerve.

Heart. In deſcribing this Part it may be of uſe to prefix alſo that of the *Pericardium*, becauſe they have ſuch a near relation to each other. The *Pericardium*, ſo called from *περὶ*, *circum*, about, and *καρδία*, *Cor*, the Heart; is a thin Membrane of a conick Figure, that reſembles a Purſe, and contains the Heart in its Cavity. Its Baſis is pierced in five Places, for the Paſſage of the Veſſels which enter and come out of the Heart. It lies in the Duplicature of the *Mediaſtinum*, which firmly adheres to it, as its Point does to the Middle of the *Diaphragm*. It receives its Veſſels from the *Mammary* and *Phrenic*, Nerves from the Recurrent and Diaphragmatick. It has *Lymphaticks* which diſcharge themſelves in the thoracick Duct. The uſe of the *Pericardium* is to contain a ſmall Quantity of a clear Water, which is ſeparated by ſmall Glands in it, that the Surface of the Heart may not grow dry by its continual Motion.

The Heart is ſituated in the Middle of the *Thorax*, between the two Lobes of the Lungs; it is of a conick Figure, whoſe Baſis is the upper End, and its *Apex* or Point the lower End, which is turned a little to the left ſide, that the right *Auricle* may be lower than the left, by which means the refluent Blood in the *Cava* aſcends the more eaſily; for like other Liquors, the Blood will ariſe to the ſame Height in both Legs of a reflex Tube. For the ſame reaſon the *Aorta* runs firſt upwards, before it turns down, that the Force of the returning Blood from the lower Parts may be the greater. The Heart is tied to the *Mediaſtinum*, to the *Pericardium*, and ſuſtained by the great Veſſels which bring and carry back the Blood. It is covered by a Membrane, which is the proper Membrane of the Muſcles; its Baſis is always ſurrounded with Fat. It has two Veins which open into the *Cava*, immediately before it empties it ſelf into the *Auricle*, and they are accompanied with two Arteries from the *Aorta*, which run thro' all the Subſtance of the Heart; they are called the *Coronary* Veſſels. The Arteries bring the Blood for Nutrition and Motion of the Heart, and the Veins carry back what remains. The Branches of the Veins on the right Side communicate with thoſe of the left: And in like manner do the Arteries on each ſide communicate with one another; and it is the ſame, tho not every where ſo evident, in all the Parts of the Body. The Heart receives a Multitude of ſmall Nerves from the eighth Pair, particularly they creep in great Numbers about the *Aorta*, and on the left Ventricle: It has alſo ſome *Lymphaticks* which diſcharge themſelves into the *Lymphatick* Duct.

At the Baſis of the Heart there are two *Auricles*, or little Ears, one on the right ſide, and the other on the left. In the right Ear opens the *Vena Cava*, in the left the *Vena Pulmonalis*; the firſt diſcharges the Blood it receives from the *Cava* into the right Ventricle, and the ſecond thruſts the Blood that comes from the *Vena Pulmonalis* into the left Ventricle. The left is leſs, but thicker than the right. Their Subſtance is compoſed of two Orders of muſcular Fibres, which terminate in a Tendon at the Baſis of the Heart; and at the right Ear there is a Circle like to a Tendon, where the *Cava* ends. Their external Surface is ſmooth; their internal is unequal, full of ſmall fleſhy Pillars, which ſend out ſmall Fibres, that croſs and go thwart one another; and betwixt theſe Pillars there are as many Furrows; they receive Nerves from the Branches of the eighth Pair. They have the ſame Motions as the *Syſtole* and *Diaſtole* of the Heart. Their Uſe is to receive the Blood which is brought from the *Cava* and *Vena Pulmonalis*, and by them to be thruſt into the Ventricles of the Heart.

In the Heart there are two Cavities or Ventricles, which anſwer to the two Ears, one on either Side; the Sides of theſe Cavities are very unequal, full of Fibres and little fleſhy Productions, long and round, of a different Figure and Bigneſs, called *Columnæ* or Pillars. Betwixt theſe Fibres there are ſeveral Furrows in the ſides of the Ventricles; eſpecially in the left Ventricle, they are deeper and longer: they contribute much to the cloſe Contraction of the Ventricles. And becauſe the ſide of the right Ventricle is much thinner than the left, therefore there is often a ſmall Bundle of fleſhy Fibres which come from the middle Partition to its oppoſite ſide, to hinder it from dilating too much. The right Ventricle ſeemeth wider than the left, which is longer and narrower than the right, and its ſides ſtronger and thicker. The two Ventricles are ſeparated by the *Septum medium*, which is properly the inſide of the left Ventricle, ſince its Fibres are continued with the Fibres of the oppoſite ſide of the ſame Ventricle. The Veſſels which enter and come out of the Heart, are the *Vena Cava*, the *Arteria* and *Vena Pulmonalis*, and the *Aorta*, or *Arteria magna.*

The right Ventricle receives the Blood from the *Cava* thro' the right Ear; and at the Mouth of the Ventricle there are placed three Valves, made of a thinner Membrane; they are of a triangular Figure, and called *Tricuſpides*; their Baſes are fixed to the Mouths of the Ventricle, and their Points and Sides tied by ſmall Fibres to the fleſhy Productions: ſo that when the Ventricle contracts, and the oppoſite Sides approach one another, the Points of the Valves meet, and their lateral Springs being relaxed, their ſides are likewiſe made to join one another by the Blood which gets between them and the ſides of the Ventricle. The three Valves thus united form a concave Cone, which hinders the return of the Blood to the *Auricle*; it is therefore thruſt out at the *Arteria Pulmonalis*, which riſes immediately out of the right Ventricle; its Mouth is leſs than the *Cava*; it has three Valves called *Sigmoidales*, or *Semilunares*, becauſe they reſemble a Half-Moon, or the old Greek *Sigma*, which was writ as a *C*. Their Subſtance is membranous. When they ſeparate, they give Paſſage to the Blood from the Ventricle into the Artery; but they ſhut the Paſſage, and are thruſt together by the Blood, if it endeavours to return. The *Arteria Pulmonalis* carries the Blood to the *Vena Pulmonalis*, which diſchargeth it ſelf thro' the left Ear into the Ventricle of the ſame ſide. At the Orifice of this Ventricle there are two Valves called *Mitrales*, becauſe they reſemble a Mitre: they are broader than the other Valves; they are ſituated and have the ſame Uſe as the *Tricuſpides* in the right Ventricle. The *Aorta* or great Artery ariſes immediately out of the left Ventricle; it has three Valves, which have the ſame Uſe and Figure as the *Semilunares* in the *Arteria Pulmonalis.*

The Heart is a compound Muſcle, and its Subſtance is made of Fibres of the ſame Nature as thoſe of other Muſcles; there are ſeveral Orders of them, which have different Directions, and all their Tendons are in the Baſis of the Heart. From the *Aorta*, juſt by one of the *Coronary* Arteries, go out two Tendons, of which the firſt paſſes thro the *Pulmonary* Artery and the right *Auricle*, the other between the two *Auricles*; theſe ſurround the Entry both of the *Aorta* and left Ventricle. The Entry of the right Ventricle is alſo tendinous, but all the Fibres which terminate about the *Pulmonary* Artery, terminate fleſhy. Now of the Fibres which come from the Mouths of the right Ventricle and *Pulmonary* Artery, the outermoſt, which are much the fineſt, go in a ſtrait Line to the Point of the Heart: All the others, which are next the Surface of the Heart, wind towards the left hand, till they arrive at the Point, where turning underneath themſelves and under the right Ventricle, they wind up the left Ventricle towards the right Hand, to their Inſertion in the Baſis. Under the ſtrait Fibres, there paſs a few more almoſt ſtrait, from the Mouth of the right Ventricle

tricle to the *Pulmonary* Artery; and from the oppoſite ſide of the Artery, to the ſecond Tendon of the *Aorta*, there paſs others, by both which the Mouth of the *Pulmonary* is dilated in the Contraction of the Heart. Under all theſe, ſome which wind from the firſt Tendon of the *Aorta* towards the Point, when they come to the middle of the right Ventricles, turn up again to the Root of the *Pulmonary* Artery, or terminatd in the fleſhy Pillars and *Papillæ*. Theſe both contract the Ventricles, and dilate the Arteries at the ſame time. The Mouths of the Ventricles are likewiſe ſurrounded with ſemicircular Fibres, which aſſiſt the Valves in the *Syſtole* of the Heart. On the ſide of the *Septum Medium*, which is next the right Ventricle, ſome Fibres go ſtrait from the Baſis to the *Apex*; all the reſt of the Fibres are twiſted only round the Ventricle, and of theſe ſome creep half way, ſome more than half way, and then return to the Baſis by the oppoſite ſide; ſome again terminate in the fleſhy Pillars and *Papillæ*; the reſt turn the Point, and ſeem to involve the Heart more than once in their going from, and returning to the Baſis. From hence it appears that a much greater number of Fibres involve the left Ventricle than do the right, ſeeing the Blood is by this thruſt only thro' the Lungs, but by that thro' all the Parts of the Body, even to the Extremities, and back again. And that the Force of the Conſtriction of this Ventricle might be every where ſtrong, and the Texture of the Heart it ſelf firmer, theſe Fibres are not at all parallel, or they do not at all run with the ſame obliquity; but the inner always decuſſate the outer, and frequently mix with one another. The Bone which is found in the Baſis of the Heart of ſeveral Beaſts, is nothing but the Tendons of the Fibres of the Heart oſſified: It is ſometimes found in Men. This Muſcle has two Motions, called *Syſtole* and *Diaſtole*; the former is when the Fibres contract, its Sides ſwell, and its Cavities are ſtrongly preſſed on all ſides. The *Diaſtole* is when it ceaſeth to act; its Fibres are lengthened, its Sides fall, and its Cavities become large and wide.

The Force by which this Muſcle throws its Blood out of its Ventricles, or by which it contracts in its *Syſtole*, has employed the Enquiries of many in vain; and even *Borelli*, with a great deal of Geometry to his aſſiſtance, ſeems to have been very wide of the Truth in his Calculations thereupon; from reaſoning upon improper *Poſtulates*, rather than the Inſufficiency of the Means he made uſe: For Dr. *Keil* has ſince, by the ſame Helps from Geometry, much more ſatisfactorily determined it, after the following manner.

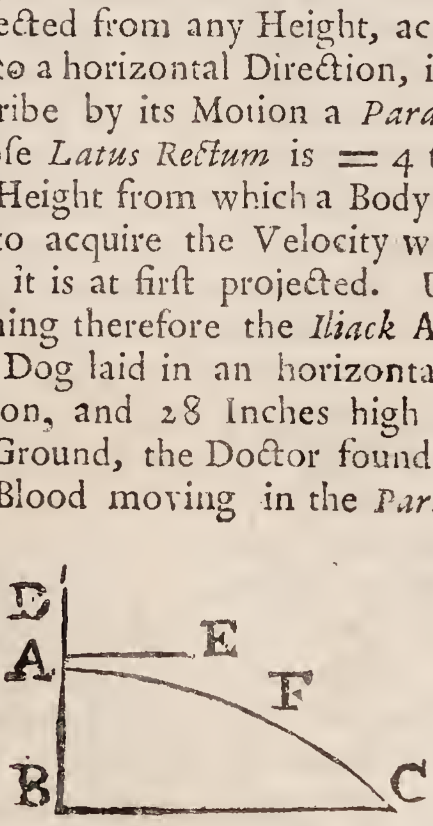
If we have the Velocity wherewith a Fluid flows out at any Orifice without any Reſiſtance from an anterior Fluid, it is eaſy to determine the Force which produces that Motion. For let the Line *A b* be the Height from which if a Body fall, it will acquire a Velocity equal to the Velocity wherewith the Fluid flows out from the Orifice; then is the Force which produces the Motion of this Fluid equal to the Weight of a Cylinder of the ſame Fluid, whoſe Baſe is equal to the Orifice, and whoſe Weight is equal to 2 *AB*, by the ſecond *Corollary* of the 36th *Propoſition* of the 2d Book of *Newton*'s *Principia*. Now the Blood flowing out of the Heart, is much reſiſted in its Motion by the anterior Blood in the Arteries and Veins, and therefore cannot flow with all the Velocity the Force of the Heart will give it, were there no ſuch

ſuch Reſiſtance; ſome part of that Force being ſpent in overcoming the Reſiſtance which ariſes from the reſt of the Maſs of Blood. If therefore we could know how much the Velocity of the Blood is diminiſhed by this Reſiſtance, or what Proportion the Velocity of the Blood reſiſted has to the Blood that is driven out, and not reſiſted; having already determined the Velocity of the Blood as it is reſiſted, we might eaſily collect the Velocity by which the Blood would flow were it not reſiſted, and from thence the abſolute Force of the Heart. To find out this, the Doctor made the following Experiment.

Having uncovered the *Iliack* Artery and Vein in the Thigh of a Dog, near to his Body, and having paſſed convenient Ligatures under them, he open'd the whole Diameter of the Veſſel, and received into a Cup all the Blood which run from it in the Space of ten Seconds of a Minute; after that, the ſame was done by the Artery for the ſame Space of Time, and both the Quantities of Blood were exactly weighed. But becauſe Experiments may be varied by ſome unheeded Circumſtances, this was repeated, until the Quantity of Blood which run from the Artery, to the Quantity of Blood which run from the Vein, was found to be in the ſame Space of Time, nearly as 7 $\frac{1}{2}$ to 3. Now the Velocity of Blood in the *Iliack* Artery ſo near the *Aorta*, is nearly the ſame with that in the *Aorta*; and conſequently the Velocity with which it flows out of the *Iliack* Artery cut aſunder, is the ſame with which it would flow out of the Heart unreſiſted; or the Blood runs thro' a Wound in the *Iliack* Artery with all the Velocity it received from the Heart. Now all the Blood which runs along the *Iliack* Artery, returns again by the *Iliack* Vein; and conſequently the Quantities of Blood which paſs thro' both in the ſame Space of Time are equal. The Quantity of Blood therefore which runs out of the *Iliack* Vein cut aſunder, is the ſame which runs thro' the *Iliack* Artery before it was cut, in the ſame Space of Time. Having therefore the Quantity which runs thro' the *Iliack* Artery, when it is cut, and when it is not cut, we have their Velocities; for the Velocity of any Fluid running thro' the ſame Canal in equal Spaces of Time, is directly as their Quantities: But the Velocity of Blood when the Artery is cut, is equal to that it receives by the full Force of the Heart; and the Velocity when it is not cut, is that Velocity with which the Blood moves thro' the *Aorta* reſiſted by the anterior Blood: and therefore theſe two Velocities are to one another as 7 $\frac{1}{2}$ to 3.

Now if the Heart throws out two Ounces of Blood every *Syſtole*, (as is moſt probable) then the Blood moves thro' the *Aorta* at the rate of 156 Feet in a Minute; and therefore the abſolute Velocity wherewith the Blood would be forced into the *Aorta*, did it find no Reſiſtance, is ſuch as would make it to move 390 Feet in a Minute, which is near 6 $\frac{1}{2}$ Feet in a Second of Time. We muſt next enquire what is the Height, from which if a Body falls, it will acquire this given Velocity; for this Height doubled gives the length of the Cylinder, whoſe Baſe is equal to the Orifice of the *Aorta*, and whoſe Weight is equal to the abſolute Force of the Heart. It is known by Experiment that the Force of Gravity will make a Body move 30 Feet in a Second, which is the Velocity it acquires in falling thro' 15 Feet; and therefore this Velocity is to the Velocity of the Blood flowing without Reſiſtance into the *Aorta*, as 30 to 6.5 : but becauſe the Heights from which Bodies acquire given Velocities, are as the Squares of the Velocities, that is as 900 to 42.25; therefore as 900 to 43.25, ſo is 15 to 07.4. This Height doubled gives the 1.48, or in Inches 17.76, which is the Height of a Cylinder of Blood, whoſe baſe is equal to the *Aorta*, which we have ſuppoſed to be equal to 0.4187; and therefore the ſolid Content is 7.436112, the Weight of which is equal to the abſolute Force of the Heart. This Weight is five Ounces, and therefore the Force of the Heart is equal to the Weight of five Ounces.

But the Force of the Heart (ſuppoſing the Experiments on which this is found are uncertain) may be ſtill found a more eaſy and ſimple way, thus: It is demonſtrated by the Writers of Mechanicks, that if a Body, whether fluid or ſolid, be projected from any Height, according to a horizontal Direction, it will deſcribe by its Motion a *Parabola*, whoſe *Latus Rectum* is $=$ 4 times the Height from which a Body muſt fall to acquire the Velocity wherewith it is at firſt projected. Upon opening therefore the *Iliack* Artery of a Dog laid in an horizontal Direction, and 28 Inches high from the Ground, the Doctor found that the Blood moving in the *Parabola*



AFC, touched the Ground at C, which is about three Feet diſtant from the Perpendicular AB let fall from the Heart. Now if AD be taken $= \frac{1}{4}$ of the *Latus Rectum* of the *Parabola*, it will be the Height from which the Blood muſt fall to acquire its Velocity at A. And becauſe from the Nature of a *Parabola*, the Rectangle under the *Latus Rectum*, and the Altitude AB is $=$ Square of BC; that is $4\,AD + AB = Bcq$, or $AD + AB = \frac{1}{4}\,Bcq$; therefore $AB : \frac{1}{2}\,BC :: \frac{1}{2}\,BC : AD$, that is $28 : 18 :: 18 : 11.5$. $11\frac{1}{2}$ Inches is therefore the Height the Blood muſt fall from, to acquire the Velocity wherewith it is projected by the Heart. But this Height doubled gives the Length of a Cylinder, whoſe Baſe is $=$ Orifice of the *Aorta*, and whoſe Weight $=$ abſolute Force of the Heart: The Length of the Cylinder is therefore 23 Inches. The Orifice of the *Aorta* of this Dog was .096, and therefore the ſolid Content of this Cylinder is 2.208, which $= 1\frac{1}{3}$ of an Ounce $=$ Force of this Dog's Heart. Now the Heart of this Dog weighed two Ounces; and Hearts being to one another as their Weights, and ſuppoſing that the Weight of an ordinary human Heart is twelve Ounces, then its Force will be almoſt $=$ 8 Ounces. So that tho this is ſomewhat more than what was before determined, yet it is of no great Moment in reſpect to what the Force in the Heart uſed to be computed. *Borelli* required a Force in the Heart $=$ Preſſure of 180000 ℔ Weight to move 20 ℔ of Blood; but this great difference of his Calculation ſeems much to ariſe from his not diſtinguiſhing between the Blood at reſt, and already in motion. The Force of the Heart is not employed in moving any Quantity of Blood at reſt, but only to continue it in motion; which how it firſt came by ſeems out of human Capacity to determine: However this is certain, that if the Reſiſtance of the Blood bore always the ſame Proportion to the Force of the Heart that it does now, that the Blood never could at firſt be put in motion by the Heart. Now did the Blood conſtantly move forwards, with the Motion at firſt communicated to it, and did the Coats of the Veſſels make no Reſiſtance, the poſterior Blood would not be retarded by the anterior; and the Force of the Blood would equal the entire Force of the Mover. But becauſe of the Reſiſtance made by the Coats of the Blood Veſſels, and the Force which is ſpent in diſtending them, the Blood is continually retarded in its Motion as it circulates, and would in a ſhort time ſtop, were not the loſt Motion made up by a freſh Impulſe from the Heart; and therefore the Force of the Heart muſt be equal to the Reſiſtances the Blood meets with in its Motion: if it were more, the Velocity of the Blood would be continually increaſing; if leſs, it would continually decreaſe, and at laſt ſtop. And from hence it is evident, that if the Circulation of the Blood was once ſtopped, all the Force of the Heart could never ſet it moving again.

Heart Burn. See *Cardialgia.*

Heart of a Tree: The middle Part longitudinally, is ſo called.

Heat, is one of the four primary Qualities, and very much conſiſts in the Rapidity of Motion in the ſmaller parts of Bodies, and that in every way: for that the progreſſive Velocity of a Body will not be ſufficient, we ſee from the Motion of Air and Water, which grow never the hotter for being drove by Tempeſts. The Writings of experimental Philoſophy are full of Projects for diſcovering this Quality, and all concur in this neceſſary Requiſite, of the Parts being rapidly agitated all ways, and variouſly ſtruck againſt one another. As to the Operation of this Quality upon our Senſes, the Reſult of which we call Heat, it is uſually eſtimated by its Relation to the Organs of Feeling: for we do not eſteem any Body to be hot, unleſs the Motion of its ſmall Parts be brisk enough to increaſe or ſurpaſs that of the Particles of the Sentient: For if it be more languid than the Sentient, we pronounce that Body to be cold; but if it be more quick in the Object than in the Sentient, we ſay the Body is hot; which is manifeſt by Experiment, becauſe the ſame Water is frequently ſaid to be hot or cold as the Hand put into it is hotter or colder. Sir *Iſaac Newton* conjectures, that Flame is a Fume, Vapour, or Exhalation heated red hot, that is, ſo as to ſhine; becauſe Bodies do not flame without emitting a copious Fume, and this Fume burns in the Flame. In diſtilling hot ardent Spirits, when the Head of the Still is taken off, the aſcending Vapour will take fire at the Flame of a Candle; and the Flame will run along the Vapour from the Candle to the Still. Some Bodies heated by Motion or Fermentation, if the Heat grows intenſe, fume copiouſly; and if the Heat be great enough, the Fumes will ſhine and become Flame. All flaming Bodies waſte and vaniſh into burning Smoke; which Smoke if the Flame be put out, is very thick and viſible, and ſometimes ſmells ſtrongly, but in the Flame loſes its ſmell by burning; and according to the nature of the Smoke, the Flame is of ſeveral Colours. As great Bodies probably conſerve their Heat the longeſt; ſo the reaſon of it ſeems to be, that their Parts heat one another: whence great denſe, and fixed Bodies, when heated beyond ſuch a degree, may emit Light ſo copiouſly, as by the emiſſion and re action of its Light, and the reflections and reactions of its Rays within its Pores, to grow ſtill hotter, till it come to ſuch a Period of Heat, as is that of the Sun; whoſe Parts are kept from fuming away by the vaſt Weight and Denſity of the Atmoſphere incumbent upon them, and very ſtrongly preſſing and condenſing the Vapours which ariſe from them: for we ſee that Water but moderately heated, will boil with violence when the preſſure of the Atmoſphere is taken off in the exhauſted Receiver. And a mixture of Tin and Lead, being placed on a red-hot Iron *in Vacuo*, will emit copious Fumes, and even ſome Flame, which yet in the Air will ſcarce viſibly ſmoke. Heat conduces much to the Fluidity of Bodies, by leſſening the Tenacity of their Parts; for it renders many Bodies fluid, which otherwiſe are not ſo; and increaſes the Fluidity of tenacious Liquors, as of Honey, Oil, Balſam, *&c.* and by the ſame reaſon leſſens their reſiſting Force. Dr. *Halley* hath ſhewn, That the ſimple Action of the Sun is, as all other Impulſes or Strokes, more or leſs forcible, according to the Sines of the Angles of Incidence, or to the Perpendicular let fall on the Plane; whence the vertical Ray (being that of the greateſt Heat) being put for *Radius*, the Force of the Sun on the horizontal Surface of the Earth, will be to that, as the Sine of the Sun's Altitude at any other time. Hence it follows, that the time of the Continuance of the Sun's ſhining being taken for a Baſis, and the Sines of the Sun's Altitudes erected thereon as Perpendiculars, and a Curve drawn thro' the Extremities of thoſe Perpendiculars, the *Area* comprehended ſhall be proportionate to the Collection of the Heat of all the Beams of the Sun in that Space of Time. Hence it will follow likewiſe, that under the Pole the Collection of all the Heat of a tropical Day is proportionate to a Rectangle of the Sine of 23 Degrees and a half into 24 Hours, or the Circumference of a Circle; that is, the Sine of 23 Degrees and a half, being nearly $\frac{4}{10}$ of *Radius*, as $\frac{8}{10}$ into 12 Hours; or, the Polar Heat is equal to that of the Sun continuing 12 Hours above the Horizon at 53 Degrees height, than which the Sun is not 5 Hours more elevated under the Equinoctial. But whereas the nature of Heat is to remain in the Subject, after the Cauſe that heated it is removed, and particularly in the Air; under the Equinoctial, the twelve Hours abſence of the Sun does very little ſtill the Motion impreſſed by the paſt Action of his Rays, wherein Heat conſiſts, before he riſes again; but under the Pole, the long Abſence of the Sun for ſix Months, wherein the Extremity of Cold does obtain, has ſo chill'd the Air, that it is, as it were, frozen, and cannot, before the Sun has got far towards it, be any ways ſenſible of his Preſence, his Beams being obſtructed by thick Clouds, and perpetual Fogs and Miſts. But the differing degrees of Heat and Cold in differing Places, depend in a great meaſure upon the Accidents of Situation, with regard to Mountains or Valleys, and the Soil. The firſt greatly help to chill the Air by the Winds which come over them, and which blow in Eddies thro' the Levels beyond: and as to Soils, ſome retain the Heat much more than others, as the Sands in *Africa*, *Arabia*, and ſuch-like Deſarts, make the Heat of Summer incredible to thoſe who have not felt it.

Hebe, ἥβη. This Word is uſed in three different Significations, *viz.* for the firſt Hair appearing about the genital Parts; for the Parts themſelves; but more juſtly for that Time of Youth, at which it firſt appears; whence Cuſtom hath appropriated it almoſt ſolely at the latter, or to ſignify Youth in general.

Hectick, from ἕξις, *Habitus*, a *Habit*; may ſtrictly be applied to any thing that is become habitual: but it is only joined to that kind of Fever which is ſlow and continual, and ending in a Conſumption. This is the Reverſe of thoſe Fevers which ariſe from a *Plethora*, or too great a Fullneſs from obſtruction, becauſe it is attended with too lax a State of the excretory Paſſages, and generally thoſe of the Skin, whereby ſo much runs off as leaves not reſiſtance enough in the contractile Veſſels to keep them ſufficiently diſtended, ſo that they vibrate oftner, agitate the Fluids the more, and keep them thin and hot. The Remedy is in giving a firmer Tone to the Solids, and laying more load upon the Fluids by a better Conſiſtence, with Balſamicks, Agglutinent, and Food of the beſt Nouriſhment.

Helenium, *Elicampane*, or *Enula Campana*, is thus called, from its great Plenty in the Iſland of St. *Helena*, as ſome ſay; and others give different reaſons for this Name, too fictitious for any ſerious regard.

Heliochryſum, from ἥλιος, *Sol*, the Sun, and χρυσὸς, *Aurum*, Gold, is any Flower of a yellow Colour; but is more peculiar to the Sun-Flower.

Heliotropium, from ἥλιος, *Sol*, the Sun, and τρέπω, *verto*, to turn; is a Name given to all Plants that turn towards the Sun, but more particularly the Turnſol, or Sun-Flower.

Helix. See *Ear*.

Helminthes, ἕλμινθες, ſignifies any kind of Worms, whence

Helminthagogum, from the former, and ἄγω, *duco*, to drive; is any Medicine that expels Worms.

Heloides, ἑλώδης, the ſame alſo as τυφώδης, is a particular kind of Fever attended with colliquative Sweats, and hath at the ſame times the Tongue dry and hard. Some take the *Anglicus Sudor*, which was epidemical, and deſcribed by the Lord *Verulam*, in his Hiſtory of *Henry* the VIIth's Reign, to have been of this kind.

Hemerilopia, ἡμεραλωπία, is a Diſtemper juſt taken notice of by *Galen*, *Introduct.* *Cap.* XV. *in Princ.* but not afterwards mentioned, wherein a Perſon cou'd ſee only by Day-light, in oppoſition to the νυχταλωπία, wherein the Patient can ſee only by Night.

Hemicrania, from ἥμισυ, *ſemis*, half, and κρανίον, *Cranium*, the Skull, or Head; is a Pain that affects only one part of the Head at a time.

Hemina, an antient meaſure, of different Contents in different Nations; but now uſed in Medicine to ſignify about ten Ounces in Meaſure.

Hemiplegia, from ἥμισυ, *ſemis*, half, and ϖλήσσω, *percutio*, to ſtrike or ſeize; is a Palſy, or any nervous Affection relating thereunto, that ſeizes one Side at a time, from ſome partial Diſorder of the nervous Syſtem. See *Palſy*.

Hemiſphere, from the ſame, and σφέρος, *Globus*, a Ball or Circle, is the half of a Globe when 'tis ſuppoſed to be cut thro' its Center in the Plane of one of its greateſt Circles.

Hepar. See *Jecur*.

Hepar Uterinum. See *Placenta*.

Hepatick Flux, is a bilious Looſeneſs, occaſioned by the overflowing of Choler.

Hepatick Vein. See *Veins*.

Herb. See *Plant*.

Herba Sancti Pauli, by ſome called alſo *Herba Paralytica,* is commonly taken to be the Primroſe; but for what Reaſon it hath obtained this Signification does not appear.

Herba Salutaris, ſome have thought fit thus to call the White Thorn, upon a Suppoſition that our Saviour was crowned with it in Deriſion, when he ſuffered upon the Croſs: And Diſtinctions annexed to this Word on like Conceits are endleſs.

Herculeus Morbus. The Epilepſy is thus called, from the Terror of its Attacks, and Difficulty of Cure. Some Medicines alſo upon the ſame Foundation, have been called *Herculean,* in order to denote their uncommon Force; but ſuch Conceits are now much in neglect.

Hereditary Diſeaſe, is ſuch as is tranſmitted from the Parents in the firſt Rudiments of the *Fœtus,* which is the Origin of many Chronick Caſes.

Hermaphrodite, is generally underſtood to be a Perſon where there is a Confuſion of Sexes, by a Participation of the genital Parts of both. But there ſeems no more of Truth in this, than that ſome Females have their *Clitoris* of an uncommon ſize; and which frequently happens from laſcivious Titillations, and Frictions, as in the notorious Inſtance of the two Nuns at *Rome.*

Hermetick Art: Chymiſtry is thus called, from *Hermes,* or *Mercury,* whom they will have to be the firſt Inventor of it.

Hermetical Philoſophy, or

Hermetical Phyſick, is that which is directed by chymical Reaſonings, upon the Principles of Salt, Sulphur, and Mercury.

Hermetical Seal, or to ſeal any thing *Hermetically,* is to heat the Neck of a Glaſs till it is juſt ready to melt, and then with a Pair of hot Pincers to twiſt it cloſe together.

Hernia, is any kind of Rupture whatſoever, and is diverſify'd by the Name of the Part affected. As,

Hernia Scrotalis, is when the Teſticles are diſtended beyond their natural Size; which happens by Bruiſes, and a too free uſe of Venery. And,

Hernia Uteri, is ſometimes made uſe of for the ſame as *Procidentia Uteri, &c.*

Herpes, is a cutaneous Inflammation of two kinds; *Miliaris,* or *Puſtularis,* which is like Millet-Seed upon the Skin, and itches; and *Excedens,* which is more corroſive and penetrating, ſo as to form little Ulcers, if not timely taken care of.

Heterogeneous, from ἕτερον, *alterum,* another, and γένος, *Genus,* Kind. This is a Term of a very lax Signification, and by the Chymiſts is come to ſerve almoſt for any thing they do not underſtand; ſo that all Differences or Inaptitude to Mixture between any Bodies is from their Heterogeneity of Parts. But ſo far as this Term may be made uſe of to convey any diſtinct Signification, muſt be done by conſidering natural Bodies under different Sortments, according as they are diverſify'd by Figure, Bulk, Motion, and their more ſenſible Properties: So that thoſe of different Sortments are heterogeneous to one another, and the Parts of the ſame Sortment are homogeneous, from ὁμὸς, *ſimilis,* like, and the latter Part as before. Thus the Diviſions Chymiſtry makes of Bodies into Oils, Salts, Spirits, *&c.* may be reckoned in reſpect to one another heterogeneous, tho the Parts of each Diviſion are amongſt themſelves homogeneous. In ſhort, they are two hard Words that ſerve frequently for the Refuges of Ignorance; elſe the common

Terms of Like and Unlike might ſerve for the ſame Purpoſes, when there is really any diſtinct Meaning intended to be communicated by the Speaker; becauſe the latter is as capable of being reſtrained to any particular Properties or Accidents of the Bodies under Conſideration, as the former.

Heterorythmos, is made by *Galen* a Species of the ἄρυθμος, which is any Irregularity of the Pulſe, this reſtraining it to that particular ſort, where it beats like one of a greater or leſſer Age; as if a Child hath a Pulſe like one more advanc'd in Years, or the contrary.

Hidrotick, a Medicine that promotes ſweat, from ἱδρὼς, *ſudor*, ſweat.

Hiera Picra. A particular Compoſition of Aloes and Spices, is ſo called from the ſuppoſed Excellency of its Virtues; the Words ἱερὰ, *ſancta*, and πικρὰ, *amara*, ſignifying the holy Bitter. The *Hiera* hath alſo for the ſame Reaſon been given to divers Compoſitions, by *Logadius, Ruffus, Archigenes*, and others, at large deſcribed by *Æginetus, Lib.* VII. *Chap.* 8. but they are all diſcontinued in the preſent Practice.

Hieroglyphicks, were certain Characters ſaid to be introduced into Medicine from *Hermes Triſmigeſtus*, of myſterious Import and Efficacy; ſome Dealers alſo in *Chiromancy*, have given the ſame Term to thoſe Lines of the Hand, from which they pretend to foretel any thing relating to a Perſon's Fortune: But theſe Juggles are now deſpiſed.

Hippocratica Facies. See *Facies Hippocratica.*

Hippocrates's Sleeve: A woollen Bag, made by joining the two opſite Angles of a ſquare Piece of Flannel, in the form of a Pyramid, uſed to ſtrain Syrups and Decoctions for Clarification.

Hippuris, ἵππουρις, is by the antient Writers in Botany uſed for the ſame Plant as the *Equiſetum*; but is alſo by *Hippocrates* applied to ſuch Diſorders as are apt to proceed from much riding; as Debility and Weeping of the genital Parts.

Hippus, is an Affection of the Eyes that makes them ſhake and tremble ſo as to repreſent Objects in the like kind of Motion as when on Horſeback, from ἵππος, *Equus*, a Horſe.

Hircus, every one knows properly to ſignify a Goat; but becauſe that Creature is remarkable for its Salacity, and Inclination to Venery, ſome Phyſical Writers have thought fit to apply *Hircoſi*, to Perſons of like Diſpoſitions; eſpecially thoſe juſt come to Puberty, or full Growth.

Homogeneous. See *Heterogeneous.*

Homotonos, ὁμότονος, equal, or rather equable, is ſaid of ſuch Diſtempers as keep a conſtant Tenor, of Riſe, State, and Declenſion, and is particularly applied by *Galen* to thoſe continued Fevers which are by others alſo called ἀκμαστικαὶ, *Acmaſtick*, laſt deſcribed by *Bellini de Febr.*

Horoſcope, ὡροσκόπος, was one who pretended to tell from the Figure of a Plant, what celeſtial Influence it was under, and what Virtues from thence obtained; but *Galen* in his time, took notice of ſuch with Deriſion. It is ſince become alſo a Term amongſt Aſtrologers, of not much better Repute.

Horror, ſtrictly ſignifies ſuch an Exceſs of Fear as makes a Perſon tremble; but in Phyſick it ſignifies ſuch a Shuddering or Quivering as precedes an Ague Fit; and is often joined with *Rigores* and *Lumbagines*. Thro' Ignorance of this Acceptation, ſome have underſtood Fear to be accounted by ſome Authors amongſt the antecedent Symptoms of ſome Diſtempers. And a pretending Tranſlator has particularly made this

Blunder in Dr. *Sydenham* on the Gout.

Hortus, ſignifying a Garden, ſome Writers, as *Rolfinkius*, *Macreen*, and others have thought fit to apply it to the Privy-Parts of a Woman.

Humerus. See *Scapula.*

Humidity, is that Quality which we call Moiſture, or the Power of wetting other bodies, which ſome Liquors and Fluids are endued with; and it differs very much from Fluidity, depending altogether on the Congruity of the component Particles of any Liquor to the Pores or Surfaces of ſuch particular Bodies as it is capable of adhering to. Thus Quickſilver is not a moiſt Liquor in reſpect to our Hands or Clothes, and many other things it will not ſtick to; but it may be called ſo in reference to Gold, Tin, or Lead, to whoſe Surfaces it will preſently adhere. And even Water itſelf that wets almoſt every thing, and is the great Standard of Moiſture and Humidity, is not capable of wetting every thing; for it ſtands and runs eaſily off in globular Drops on the Leaves of Cabbages and many other Plants: and it will not wet the Feathers of Ducks, Swans, and other Water-Fowl. And that the Texture only may cauſe the Fluid to be humid, is plain, becauſe neither Quickſilver alone, Lead, or Biſmuth will ſtick upon Glaſs: yet being mixed together, they will form a Maſs that will do ſo: as is plain from ſuch a Compoſition being frequently uſed in foliating Looking-Glaſſes.

Humidum Radicale, Radical Moiſture; which ſee.

Humilis Muſculus. See *Eye.*

Humor, in a lax Senſe may be taken for any Fluid; but Phyſicians reſtrain it chiefly to thoſe of animal Bodies, and underſtand by it, in the largeſt Acceptation within that Reſtriction, all the Juices contained in Canals, or Veſſels; and which are diſtinguiſhed from one another, by ſome manifeſt Qualities, as healthful, vitiated, ſanguine, cholerick, and the like, according to their different Conſiſtences, and Principles. But *Helmont* thinks fit to ridicule the Followers of *Galen*, who aſſign'd ſome different Humours, for the compounding Parts of the Blood; but how juſtly, we leave others to determine.

Humores in Secundinis. See *Amnion.*

Humours of the Eye. See *Eye.*

Hunger, is an animal Appetite, ariſing from an uneaſy Senſation at Stomach for Food. When the Stomach is empty and the Fibres in their natural Tenſity, they draw up ſo cloſe as to rub againſt each other, ſo as to make that Senſation: but when they are diſtended with Food, it is again removed; unleſs when a Perſon faſteth ſo long, as for want of Spirits or nervous Fluid, to have thoſe Fibres grow too flaccid to corrugate, and then we ſay a Perſon has faſted away his Stomach. And as this is occaſioned by the Attrition of the Coats of the Stomach againſt each other, Thirſt, when not mixed with Hunger, ſeems to differ in nothing elſe but too ſenſible an Attrition of the Food in the Stomach againſt its Sides, for want of a ſufficient Quantity of Moiſture. For the thinner part of the Food will waſh over the *Pylorus* firſt, and thereby often occaſions a Supply to dilute the Remainder. And this is the Appetite of Thirſt.

Hydatides, from ὕδωρ, *Aqua*, Water, and εἶδος, *Forma*, Appearance; are little tranſparent Bladders of Water in any Part: moſt common in dropſical Perſons, from a Diſtention or Rupture of the *Lymphaducts*; for they happen moſtly in Parts abounding with thoſe Veſſels, eſpecially in the Liver, Lungs, *Meſentery* and *Uterus,* the latter of which *Ruyſch* gives an Inſtance, *Cent. Anat. Chir. Obſ.* 33. wherein it was hardly any thing but a Collection of theſe Bladders: Hence likewiſe ſome Writers apply the Term *Hydatiſm* to a particular Sound made by Tumours like that of included Water; tho more antiently this Term expreſſed a particular Tumour upon the Eye-Lids, that was almoſt tranſparent, like a Pearl.

Hydragogue, from ὕδωρ, *Aqua,* Water, and ἄγω, *duco,* to draw, is ſuch a Medicine as occaſions the Diſcharge of watry Humours; which is generally the Caſe of the ſtronger Catharticks, becauſe they ſhake moſt forcibly, by their Vellications, the Bowels and their Appendages, ſo as to ſqueeze out Water enough to make the Stools ſeem to be little elſe.

Hydrargyros, ὑδράργυρος, ἄργυρον χυτὸν, *Argentum Vivum,* and by the Chymiſts *Mercury,* is the common Quickſilver.

Hydraulics, is that Part of Mechanicks which conſiders the Motion of Fluids, and particularly of Water.

Hydrocele, from ὕδωρ, *Aqua,* and κήλη, *Tumor,* Swelling; is properly any watry Swelling, but is uſed only for that of the *Scrotum:* as,

Hydrocephalum, from the former, and κεφαλὴ, *Caput,* the Head; is when the Head is ſtuffed and ſoft with Water; which is the Caſe of many Children, and increaſes till they die convulſed, if not remedied: which is not to be done without ſevere Bliſtering upon the *Sutures.* It is called the Head-Dropſy.

Hydromel, from the former, and *Mel,* Honey; a Compoſition of Water and Honey.

Hydropege, from the former, and πηγὴ, *Fons,* a Spring; is Spring-Water.

Hydrophobia, from the former, and φοβέω, *timeo,* to fear; is a fear of Water, called alſo for that reaſon, *Aquæ Pavor:* but applied only in thoſe diſmal Symptoms that follow the Bite of a mad Dog; and amongſt which the dread of Water is the moſt remarkable. Frequent Immerſion in cold Water, before the Venom ſhews it ſelf, which is ſometimes a great many Days, is reckon'd the beſt, if not the only Remedy.

Hydropick, one that is troubled with a Dropſy; alſo a Medicine contrived for that Diſtemper; and,

Hydrotick ſignifies the ſame.

Hydrops, a Dropſy, from the ſame Derivation; becauſe Water is the moſt viſible Cauſe of the Diſtemper. It is from too lax a Tone of the Solids, whereby Digeſtion is weakened, and all the Parts ſtuffed beyond meaſure. The Cure conſiſts in Evacuation, and ſtrengthning the Fibres of the whole Body.

Hydrops ad Matulam, from *Matula,* ſignifying a Chamber-Pot, or a Urinal, is a *Diabetes;* which ſee.

Hydroſtaticks, is what relates to the Gravities and *Æquilibria* of Liquors; and alſo comprehends the Art of weighing Bodies in Water, in order to eſtimate their ſpecifick Gravities. There are ſeveral Parts of the animal Mechaniſm, eſpecially the Circulation and Secretion, which cannot be underſtood but by ſome *Præcognita* from hence; the beſt Writers therefore on this Subject ought to be conſulted. There is room here only to recite ſome of the moſt uſeful Heads of this Part of phyſical Knowledge; as

1. The upper Parts of all Fluids preſs upon the lower.

2. A lighter Fluid may gravitate or preſs upon a heavier.

3. If a Body contiguous to the Water be altogether, or in part, lower than the upper Surface of the Water, the lower part of the Body will be preſſed upwards by the Water which toucheth it beneath.

4. To account for the riſing of Water in Pumps, *&c.* there needs only a competent Weight of an external Fluid.

5. The Preſſure of an external Fluid is able to keep an heterogeneous Liquor ſuſpended in the ſame Height in ſeveral Pipes, tho they be of different Diameters.

6. If a Body be placed under Water, with its uppermoſt Surface parallel to the Horizon, the direct Preſſure which it ſuſtains is no more than that of a Column of Water, having the horizontal Superficies of the Body for its Baſe, and the perpendicular Depth of the Water for its height. And if the Water that leans on the Body be contained in Pipes open at both Ends, the Preſſure of the Water is to be eſtimated by the Weight of a Pillar of Water, whoſe Baſe is equal to the lower Orifice of the Pipe, and its Height equal to a Perpendicular, reaching from thence to the Top of the Water; tho the Pipe be much inclined any way, or tho it be ever ſo irregularly ſhaped, and much broaded in ſome other Places than at the Bottom.

7. A Body immerſed in a Fluid, ſuſtains a lateral Preſſure from the Fluid, which alſo increaſeth as the Body is placed deeper beneath the Surface of the Fluid.

8. The Aſcent of Water in Syphons, and its flowing thro' them, may be explicated without having recourſe to an Abhorrence of a Vacuum, from the external Preſſure of ſome other Fluid.

9. The moſt ſolid Body, that will ſink by its own Weight at the Surface, yet if it be placed at a greater Depth than that of twenty times its own thickneſs, will not ſink, if its Deſcent be not aſſiſted by the incumbent Water.

10. If a Veſſel be filled with Water, or any other Liquor, whoſe Surface is capable of being even, it will continue ſo till diſturbed by an external Cauſe.

11. If a Body ſpecifically lighter than a Fluid be immerſed in that Fluid, it will riſe with a Force proportionable to the Exceſs of Gravity in the Fluid.

12. If a Body heavier than the Fluid be immerſed, it will ſink with a Force proportionable to the Exceſs of its Gravity.

13. Fluids when preſs'd, preſs *undiquaque,* on all ſides.

14. Weights which force out of the ſame Tube equal Quantities of the ſame Fluid, are to one another as the Squares of the Times in which the Fluid is forced out: But if the Times are equal in which the ſame Quantity of the Fluid is forced out thro' unequal Tubes, then the Powers are reciprocally as the Orifices of the Tubes; and therefore Powers which thruſt out the ſame Quantity of a Fluid thro' unequal Tubes, are to one another in a reciprocal Proportion, compounded of the Squares of the Times and of the Orifices of the Tubes.

Hygieia, from ὑγιαίνω, *bene valeo,* to be well; is a good State of Health. The Poets have fancy'd a Goddeſs under this Appellation; and Inſtitution-Writers are almoſt as fictitious and unintelligible, when they define what is meant hereby: but thoſe that will be contented with plain Senſe, may underſtand by Health, a due Velocity of the Blood in the Arteries and Veins of a living Body, as Diſeaſe was before deſcrib'd to be that due Velocity loſt: hence

Hygieina, is that part of Phyſick

which teaches the Preſervation of Health.

Hygroſcope, is an Inſtrument to ſhew the Moiſture and Dryneſs of the Air; and to meaſure and eſtimate the Quantity of either Extreme. There are various Methods of doing this, but the ordinary Contrivances with Whip-Cord are the eaſieſt and beſt, as they infallibly ſhorten and lengthen, as the Air grows moiſter and dryer. How far the earlieſt Notices of Changes of this kind may be made uſe of by a Phyſician in many Caſes, the Skilful alone can be Judges.

Hylarchick Principle, is a Term introduced by Dr. *Hen. More*, in his *Enchirid. Metaphyſ.* to ſignify an univerſal Spirit in the World; but he hath no Followers in ſuch myſterious Diſtinctions, Mr. *Boyle* having very early overthrown his Doctrine upon this Head.

Hymen. See *Generation Parts of, proper to Women.*

Hyoides. See *Tongue.*

Hyothryoides. See *Larynx.*

Hypercatharſis, from ὕπερ, *ſupra*, over or above, and καθαίρω, *purgo*, to purge; is when a Medicine has purg'd to exceſs.

Hyper-Cryſis, from the ſame, and κρίνω, *ſecerno*, to ſeparate; is a critical Excretion above meaſure; as when a Fever terminates in a Looſeneſs, the Humours may flow off faſter than the Strength can bear; and therefore it is to be checked.

Hyperſcarcoſis, from ὕπερ, *ſuper*, above, and σὰρξ, *Caro*, Fleſh; more Fleſh than needful, or Excreſcencies of Fleſh, generally on the Lips of Wounds, which Surgeons call *Fungus*'s, from their reſemblance to Muſhrooms.

Hypnotick, from ὕπνος, *Somnus*, Sleep; is any Medicine that induces Sleep; which ſee, and *Narcoticks.*

Hypocatharſis, from ὑπὸ, *ſub*, under, and καθαίρω, *purgo*, to purge, is when a Medicine does not work ſo much as was expected, or but very little.

Hypocauſtum, from ὑπὸ, *ſub*, under, and καίω, *uro*, to burn; is a Stove, or Hot-Houſe, or any ſuch like Contrivance.

Hypociſtis. *Schroder* ſays, this is the Juice of a Sprout which ſhoots out from the Root of the *Ciſtus*, not unlike Miſletoe of the Oak. It is blackiſh, and ſhines like the beſt *Spaniſh* Juice of Liquorice. It is reckon'd more powerful in its aſtringent Qualities than the *Acacia*; but it is but little uſed.

Hypochondriack Regions, from ὑπὸ, *ſub*, under, and χόνδρος, *Cartilago*, a Cartilage; that is, the two Regions lying on each ſide the *Cartilago Enſiformis*, and thoſe of the Ribs, and the tip of the Breaſt; which have in one the Liver, and in the other the Spleen. Hence Diſorders of thoſe *Viſcera*, eſpecially of the Spleen, are called the

Hypochondriacal Affection; (ſee *Hyſterical Affection*) and

Hypocondriacal Medicines, are ſuch as are calculated againſt ſuch Diſorders.

Hypogaſtrium, from ὑπὸ, *ſub*, under, and γαστὴρ, *Venter*, a Belly; is that Region of the Belly reaching from three Inches below the Navel to the *Os Pubis* and Groins.

Hypogaſtrick Artery —— *Veins.* See *Artery* —— *Veins.*

Hypogloſſum, from ὑπὸ, *ſubter*, under, and γλῶσσα, *Lingua*, the Tongue. See *Ranula.*

Hypopyon, is a Collection of Pus under the *Tunica Cornea* of the Eye.

Hypoſphagma, in an Extravaſation of the Blood in the Eye, proceeding from ſome external Injury.

Hypoſtaſis Urinæ, is the thick Sediments in Urine.

Hypoſtatical Principles; Some

Chymiſts, and particularly *Paracelſus*, ſo called the three Chymical ones, Salt, Sulphur, and Mercury.

Hypotheſis, from ὑποτίθημι, *ſuppono*, to ſuppoſe, ſignifies ſtrictly any Conjecture or Suppoſition advanced; but in a large Senſe. It is a way of Reaſoning upon ſomewhat ſuppoſed, that cannot of it ſelf be proved; or for diſpatch, is taken for granted. But this way of Reaſoning has of late been juſtly exploded in Phyſick, becauſe that argues from demonſtrable Principles, which our Senſes are Witneſſes to, and will not allow any thing ſuppoſititious, unleſs ſometimes for Argument ſake.

Hyſterick Affections, from ὑστέρα, *Uterus*, the Womb; are Diſorders of the Womb that bring the whole nervous Syſtem frequently into Diſorder therewith: And,

Hyſterick Remedies, are Medicines calculated againſt ſuch Diſorders, which are either *dulcia* or *fœtida*, ſweet or ſtinking: but of the former, ſuch as Musk, Ambergreaſe, and the like, there are very few with whom they will agree. Diſorders of the Womb, all which are called hyſterical Affections, ariſe from too titillating, or too uneaſy Senſations: The former proceed from that Irritation of the Nerves, which the Make and Secretion of thoſe Parts have naturally ſubjected them to; this in ſome ſorts of Conſtitutions ariſing to that degree, as to draw the whole Syſtem into Diſorder, and occaſion a ſurprizing Variety of Symptoms, as ſeveral ſorts of Convulſions and Species of Madneſs; which therefore are by ſome termed *Furores Uterini*. Now theſe Diſorders ſeem moſt effectually allay'd by ſuch things as are in a manner the reverſe of Cordials, and are both in ſmell and taſte very offenſive and diſagreeable; and they ſeem to anſwer this end by ſuffocating as it were the Spirits, and damping their inordinate Sallies; ſo that ſuch Stimulation ceaſes, and the Fibres return to their natural Tone and Motions: for as what is grateful to the Senſes gives an inexpreſſible Emotion to the fine nervous Filaments, ſo does what is fetid and diſagreeable quite deſtroy that Emotion, and deaden it. And as the former kind conſiſts chiefly of fine ſubtile volatile Parts, by which, as before explain'd under *Cephalicks*, they are the fitter to enter the Nerves; ſo theſe are generally of a clammy viſcous Contexture, and thereby the fitter to envelope and entangle that ſubtile Juice, whereby its Motion is much retarded, and conſequently the Fibres render'd leſs ſpringy. In the latter Caſe, the Uneaſineſs of the Burden when with Child, and often the Diſorders of the *Fœtus*, bring the Womb, and by degrees the whole nervous Syſtem, into convulſive Diſorders; which admits of little or nothing to be done by way of Medicine, but is beſt remedy'd by contributing to the Eaſe, and gratifying all the Deſires and Cravings of the Mother. But the worſt Miſchief to thoſe Parts, is from a Lodgment of ſome diſagreeable Matter upon their Glands, whereby they are frequently apt to cancerate; or from an Obſtruction of thoſe Diſcharges, which at certain times the Conſtitution requires to be made from thoſe Parts. In the firſt of theſe, all ſuch come to be deemed Hyſtericks, which by their deterſive Qualities open thoſe Glands, and by degrees wear away the obſtructed Humours. In the latter are employ'd ſuch as either give a greater Force to the circulating Blood, whereby it is enabled to break thro' the Capillaries; or which ſo attenuate it, as to fit it upon that account the eaſier to flow thro', and make the Diſcharge requir'd. And thus whatſoever in Medicine, either ſimple or compound, contributes to any of thoſe Ends, tho' very different in their Operations, as the original Cauſe of their Diſorder may differ, they all come under this general Appellation of *Hyſtericks* or *Uterines.*

Hypotenar, from ὑπὸ, *ſub,* under, and θέναρ, *vola,* the Hollow of the Hand; a Muſcle which ariſes from the fourth Bone of the ſecond Rank of the Bones of the *Carpus,* and from the *Ligamentum Annulare,* and is inſerted externally into the firſt Bone of the little Finger; this draws it from the little Fingers.

Hyſterotomy, from ὑστέρα, *Uterus,* the Womb, and τέμνω, *ſeco,* to cut, is a Diſſection of the Womb, as in the *Cæſarian* Operation.

I

I*Atraleiptes,* ἰατραλείπτης, is a Perſon who undertakes to cure Diſtempers by external Unction and Frictions: *Galen* makes mention of ſuch in his Time, particularly one *Diotas*; and *Pliny* informs us, that this was firſt introduced by *Prodicus* of *Selymbria,* who was a Diſciple of *Æſculapius.*

Iatros, Ἰατρὸς, *Medicus,* is a Phyſician; and ſome Compounds and Derivatives of this Word are made uſe of on many Occaſions by phyſical Writers, as *Iatricochymicus,* a Chymical Phyſician, and the like.

Ibis, was a Bird much like our King-Fiſher, taken notice of by the *Egyptians,* becauſe when it was ſick it uſed to inject with its long Bill the Water of the *Nile* into its Fundament; whence *Langius,Lib.* 2. *Ep.* 2. ſays, they learned the uſe of Clyſters.

Ichor, ſignifies ſtrictly a thin watry Humour, like *Serum,* but is alſo ſometimes uſed for a thicker kind that flows from Ulcers. Several Acceptations of this Term by ſome Authors are here needleſs to recite; it being met with in very different Senſes.

Icterick, is ſaid of, a Perſon that has the Jaundice; and,

Icterical Remedies, are Medicines againſt the Jaundice; from

Icterus, the Jaundice; a Diſtemper from Obſtructions of the Glands of the Liver, which prevents the Gall being duly ſeparated by them from the Blood; and ſometimes, eſpecially in hard Drinkers, they are ſo indurated as never after to be opened, and to ſtraiten the Motion of the Blood ſo much thro' that *Viſcus,* as to make it divert with a Force great enough into the *Gaſtrick* Arteries, which go off from the *Hepatick,* to break thro' them, and drain into the Stomach; ſo that vomiting of Blood in this Diſtemper is a fatal Symptom.

Icterus albus, the white Jaundice; the Green-Sickneſs is ſometimes improperly thus called.

Ice. See *Freezing.*

Idea, ſtrictly, is a metaphyſical Term expreſſing the Conception or Perception the Mind has of any thing under ſuch a Term; and thus *Idea Morbi* is a complex Perception of ſuch a Collection of Accidents as concur to any Diſtemper, expreſſed by ſome particular Term.

Idiopathy, from ἴδιος, *proprius,* proper, or one's own, and πάθος, *Affectus,* Affection, or Paſſion; is a primary Diſeaſe, that neither depends on, nor proceeds from another.

Idioſyncraſy, from ἴδιος, *proprius,*

prius, σὺν, *cum*, with and κρᾶσις, *Temperamentum*, a Temperament; is a peculiar Temper or Diſpoſition, not common to another.

Jecur, the Liver. This *Viſcus* lies in the right *Hypogaſtrium*. Its convex and upper Side reaches a little beyond the *Cartilago Enſiformis*, and touches the *Diaphragm*. Its concave and upper Side covers the *Pylorus*, and part of the Stomach, as alſo a part of the *Colon*, all the *Duodenum*, a part of the *Jejunum*, and of the *Omentum*: when we ſtand, its Extremity grows near to the Navel. It is almoſt round and pretty thick. Its upper Side is convex, ſmooth, and equal. In its middle and fore-part it is divided into two by a *Fiſſure*, where the umbilical Veſſels enter. The Gall-Bladder is faſtened to its under ſide, where there are three Eminencies that the Antients called *Portæ*, of which one paſſes for a little Lobe: when it is full of Blood, it is of a hard red Colour; when the Blood is waſhed out of it, it is pale and ſoft.

It is faſtened in the Body by two Ligaments; the firſt which is large and ſtrong, comes from the *Peritonæum* that covers the *Diaphragm*, and penetrating the Subſtance of the Liver, it joins the *Capſula* of the *Vena Portæ*. The ſecond is the umbilical Vein; it comes from the Navel, and enters by the great Fiſſure of the Liver to join the *Vena Portæ*: After the Birth it degenerates into a Ligament, but is of little uſe for the faſtening of the Liver; 'tis covered with a common Membrane from the *Peritonæum*, beſides that every Lobe and Gland has its proper Membrane.

The common Membrane of the Liver being raiſed, its Subſtance appears to be compoſed of ſmall Glands of a conick Figure, not eaſily to be perceiv'd in a human Liver, and bound together by a proper Membrane into ſeveral Heaps or Lobes, which like Bunches of Grapes, hang to the Branches of the Veſſels, from which each ſmall Gland receives a Twig; and the Lobes are tied to one another by ſmall Membranes, which fill up the Spaces between them. The Veſſels of the Liver are the *Vena Cava* and the *Vena Portæ*; they are accompanied with many ſmall Branches of the Arteries, which come from the *Cæliack* and *Meſenterica ſuperior*. The *Vena Portæ* brings the Blood full of Bile for Secretion, and the *Cava* brings back the Blood that remains. The *Vena Portæ* and the *Cava* enter the Liver by its concave Side, and are equally diſtributed thro all its Subſtance; wherever there is a Branch of the one, there is a Branch of the other: ſo that each Lobe, and each Gland in the Lobe, whether on the convex or concave Side, receive the ſame Veſſels. The *Vena Portæ* performing the office of an Artery, brings the Blood full of Bile, which being ſtrained off by the Glands, the reſt of the Blood is carried back by the Branches of the *Vena Cava* to the Heart. Its Nerves it receives from the *Plexus Hepaticus* of the intercoſtal Nerve. Beſides theſe Veſſels, the Liver has Lymphatick Veſſels, moſt of which open into the conglobated Glands near the *Vena Portæ*, or the concave ſide of the Liver; from thence the *Lympha* is carried by other Lymphaticks to the *Receptaculum Chyli*.

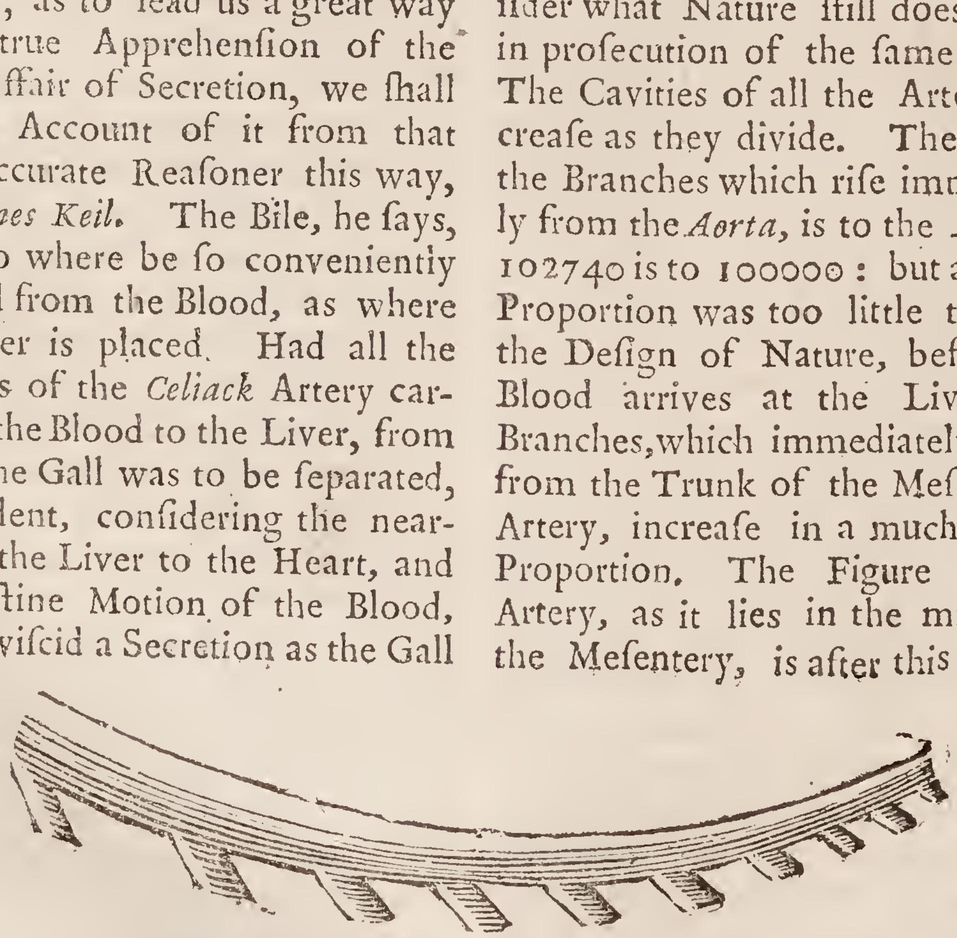
The excretory Veſſels of the Liver are the *Veſicula Fellis* and *Porus Biliarius*: The *Veſicula Fellis*, or Gall Bladder, is fixed to the concave ſide of the Liver, into which its back-part makes a ſmall Dint: Its Figure is like that of a Pear; 'tis of a different bigneſs almoſt in every Subject; the biggeſt is about the bigneſs of a little Hen's Egg. When the Liver is in its natural Situation, the Bottom or largeſt Part of the Bladder is downwards, and the Neck or narroweſt Part upwards; and then it touches the Stomach as well as the *Colon*, where it frequently dyes them yellow. This Bladder is compos'd of three Coats, the outermoſt is common to it with the Liver; the next, which is proper to it, is thick and ſolid, compos'd of tranſverſe, oblique, and ſtrait Fibres. The third is thin and nervous: This laſt Coat is cover'd within by a kind of Cruſt or *Mucus*, which preſerves it againſt the Acrimony of the Bile, ſecerned probably by ſome ſmall Glands, which *Malpighi* has remark'd between its Coats, where the *Cyſtick* Arteries end; which gave him ground to think, that it was the ſame in the *Porus Biliarius*. The Bile is brought into the Gall-bladder by ſome ſmall Veſſels which ariſe from the neighbouring Glands; and which uniting, form one or two Pipes that open at the Neck of the Bladder. Theſe Ducts are hard to diſcover in any Liver but that of an Ox. From the neck of the Gall-bladder there goes a Pipe, not in a ſtrait Line with the Bladder, but, as it were, more depreſſed in the Liver; it is call'd *Ductus Cyſticus*. Some ſmall biliary Ducts open likewiſe into it, and its inner Membrane has ſeveral *Rugæ*, which retard the Motion of the Bile: To this Pipe, which is about the bigneſs of a Gooſe-Quill, is joined another, called *Ductus Hepaticus*, or *Porus Biliarius*; theſe two together make the *Ductus communis Choledochus*, which goes obliquely to the lower end of the *Duodenum*, or beginning of the *Jejunum*. Afrer it has pierced the firſt Coat, it runs near two Fingers breadth between the Coats, before it opens into the Cavity of the Inteſtine; which oblique Inſertion ſerves inſtead of a Valve to hinder the Bile from returning into the *Ductus communis*, having once enter'd the Inteſtine. The Gall-bladder has 2 Veins from the *Vena Portæ*, which are called *Cyſticæ Gemellæ*: It has ſome ſmall Arteries from the *Cæliaca dextra*, and ſome Lymphaticks.

The *Porus Biliarius* is another excretory Veſſel of the Liver: It has as many Branches as the *Vena Portæ*, which it accompanies thro' every Lobe and Gland of the Liver. Wherever there is a Branch of the one, there is a Branch of the other; and theſe two are incloſed in one common *Capſule*, as in a Sheath: The uſe of this *Capſule* is to facilitate the Motion of the Blood and Bile, by the contraction of its Fibres. All theſe Branches unite, and make one Trunk of the bigneſs of a ſmall Quill, which joins the end of the cyſtick Duct, for carrying the Bile from the Liver to the Inteſtines by the common Duct; as was ſaid before. The Inſertion of the *Porus Biliarius* into the cyſtick Duct is oblique, with its Mouth looking towards the *Ductus communis*, by which means it is impoſſible that the Bile which comes from the *Cyſtis* can enter the *Porus Biliarius*, unleſs the common Duct is ſtopp'd.

The Bile which is found in the Gall-bladder is thinner, and different from that which is in the *Porus Biliarius*. The uſe of the Bile is to ſheathe or blunt the Acids of the Chyle; becauſe they being entangled with its Sulphur, thicken it ſo as that they cannot ſufficiently be diluted by the *Succus Pancreaticus* to enter the lacteal Veſſels. This appears not only from the Analyſis of the Bile, which yields more of a lixivious than of a volatile alkaline

Salt, but likewiſe from what *Leuwenhoeck* has obſerv'd, that of the great Quantity of acid Salts he has ſeen amongſt the Aliments in the Stomach, he never could find any in the Chyle after it had paſſed the *Duodenum.* Becauſe ſome Chyle is almoſt always paſſing thro' the *Duodenum*, therefore it is neceſſary that the Bile likewiſe ſhould be continually poured into it from the *Hepatick* Duct. In a Dog whoſe common Duct was near as big as a Man's, has been gather'd at the rate of two Drams in an Hour. But becauſe a greater Quantity of Aliments requires a greater Quantity of Bile; therefore according as the Stomach is more or leſs diſtended with Food, it preſſes out of the Gall-bladder a proportionable Quantity of Gall to be mixed with the Chyle in the Guts.

As that particular Mechaniſm by which the Bile is ſeparated from the Blood is ſo remarkable and extraordinary, as to lead us a great way into a true Apprehenſion of the whole Affair of Secretion, we ſhall add an Account of it from that moſt accurate Reaſoner this way, Dr. *James Keil.* The Bile, he ſays, could no where be ſo conveniently ſecerned from the Blood, as where the Liver is placed. Had all the Branches of the *Celiack* Artery carried all the Blood to the Liver, from which the Gall was to be ſeparated, it is evident, conſidering the nearneſs of the Liver to the Heart, and the inteſtine Motion of the Blood, that ſo viſcid a Secretion as the Gall is, could never have been formed in the Blood, and conſequently could never have been ſecreted by any Gland in that Place. In this Caſe Nature is forced to alter her uſual Method of ſending the Blood to all Parts of the Body by Arteries. Here ſhe forms a Vein, which is no Branch of the *Vena Cava,* as all the others are; and by it ſends the Blood from the Branches of the Meſenterick and Celiack Arteries to the Liver: by this the Blood is brought a great way about, paſſing thro' all the Inteſtines, Stomach, Spleen, Caul, and *Pancreas,* before it arrives at the Liver; and its Celerity is extremely diminiſhed, that all the Corpuſcles, which are to form the Gall, may have a ſufficient time to attract one another, and unite before they come to their ſecerning Veſſels. But that this is moſt certainly the Uſe of the *Porta,* will more evidently appear, if we conſider what Nature ſtill does further in proſecution of the ſame Deſign. The Cavities of all the Arteries increaſe as they divide. The Sum of the Branches which riſe immediately from the *Aorta,* is to the *Aorta* as 102740 is to 100000: but as if this Proportion was too little to effect the Deſign of Nature, before the Blood arrives at the Liver, the Branches, which immediately ſpring from the Trunk of the Meſenterick Artery, increaſe in a much greater Proportion. The Figure of this Artery, as it lies in the middle of the Meſentery, is after this manner



And in a Body from which the Doctor took the following Proportions, he found 21 Branches to ſpring immediately from its Trunk.

In ſuch Parts of which the Trunk of the Meſenterick Artery is 15129

The 1ſt Branch is	2136
2	1936
3	2136
4	2104
5	4489
6	1936
7	2601
8	3136
9	1681
10	3025
11	625
12	1369
13	1024
14	1846
15	1936
16	529
17	729
18	1156
19	1024
20	1156
21	841
The Sum of all	37428

By theſe Proportions it appears, that the Sum of the firſt Branches is much more than double to the Trunk of the Meſenterick Artery; and therefore the Velocity of the Blood in them is much leſs than half what it is in the Trunk: whereas in the Branches which come immediately from the *Aorta*, the Diminution of the Velocity is hardly ſenſible. But to put this Matter in the cleareſt Light, it is neceſſary, Firſt, to examine with what Velocity the Blood would have moved in the Liver, had it been carried thither by Arteries, as uſual to other Places. Secondly, With what Velocity it would have moved, had it been brought to the Liver by ſuch an Artery as the *Meſenterica ſuperior*. And, Thirdly, to demonſtrate the Velocity with which it now moves thro' the Branches of the *Porta* to the Liver.

Suppoſe that an Artery equal to the Meſenterick (the Square of whoſe Diameter is .038025 Parts of an Inch) had gone directly from the *Aorta* to the Liver, and that the Proportion between its Branches had been the ſame it is every where elſe; to wit, 10000 to 12387. The Logarithm of .038025 is 1.4189307. The Logarithm of the ſmalleſt Artery has been found to be 8.6020620, their Difference is —7.1831293; which Number being divided by .2080639, the Quotient 3.4 is the Series of Diviſions of this Artery: and conſequently upon Calculation, the Velocity of the Blood in the laſt Diviſions of the Series, will be found to be to the Velocity in the Trunk of the Artery as 1 to 1448. But the Velocity of the Blood would have been much leſs, if it had been carried by an Artery, ſuch as the Meſenterick; directly to the Liver. What Proportion the Trunk of the Artery bears to its firſt Branches, has been ſhewn; the Proportion of the ſeveral Trunks to their Branches will next be neceſſary, to find out the general *Ratio.*

The Fifth Branch of the Meſenterick Artery was	4489
Its Branches	1764 2809
	4573
The leaſt of thoſe Branches	1764
Divided into four	576 1225 576 1024
	3401

The

The biggeſt Branch	2809
Divided into three	961 1764 1521
	4246
One of theſe, to wit,	1521
Divided into two	1369 961
	2330
The Eighth Branch of the Meſenterick Artery was	3136
Its Branches	1521 1225
	2746
The biggeſt Branch	1521
Divided into two	900 900
	1800
The leaſt	1225
Divided into two	729 900
	1629
The tenth Branch of the Meſenterick Artery was	3025
Its Branches	1936 1600
	3536
The biggeſt Branch	1936
Divided into two	1089 1296
	2385
Of theſe the biggeſt	1296
Divided into two	676 676
	1352
The 14th Branch of the Meſenterick Artery was	1846
Its Branches	900 900 900
	2700
The 15th Branch of the Meſenterick Artery was	1936
Its Branches	1089 1369
	2458
Of theſe the biggeſt Branch	1369
Divided into three	784 676 676
	2136
Of which Branch	676
Divided into two	400 529
	929

From all which Numbers, we ſhall take the general *Ratio* of the Trunks to their Branches, to be as the Sum of all the Trunks to the Sum of all the Branches; that is, as 28749 to 36221, or as 10000 to 12687. Now a Calculation upon this *Ratio* will find 36 Series of Diviſions in the Meſenteriek Artery; and that in the laſt of theſe the Blood moves 5261 times ſlower than it does in the Trunk of the Meſenterick Artery.

As the Trunk of the Meſenterick Artery bears a leſſer Proportion to its Branches than the *Aorta* does to its Branches; ſo the Branches of the Meſenterick Artery are likewiſe leſs in Proportion to their conjugate Veins, than the *Aorta* is to the *Vena Cava.* The deſcending Trunk of the *Aorta,* below the Emulgents, is to the *Vena Cava* at the ſame place, as 324 is to 441; but a Branch of the Meſenterick Artery is to its correſponding Branch of the *Porta,* as 9 to 25: And therefore the Blood in the Branches of the *Porta* moves 14613 times ſlower than it does in the Trunk of the Meſenterick Artery, and that only upon the account of the increaſe of the Diameter of the Veſſels; ſo neceſſary was it to abate the rapid inteſtine Motion of the Blood, which might hinder the Coaleſcence of the Particles for the Formation of the Bile.

The Velocity of the Blood thus decreaſing as it paſſeth to the Liver, it is next to be known what time it takes in paſſing. If a Blood-veſſel divides into any number of Branches of equal Lengths, and the Orifices of the Branches of each Diviſion increaſe in a certain given *Ratio,* the time the Blood will take to run thro' ſuch a Veſſel may be thus had: Becauſe the Velocity of the Blood is reciprocally as the Sections of the Veſſels, and the Length the Blood runs being given, the Time is reciprocally as the Velocity; the Time the Blood moves thro' each Length will be directly as the Section of the Veſſel, that is, directly as the Sum of the Sections of all the Branches: And therefore if the Sections are in a Geometrical Progreſſion, the time will likewiſe be ſo too. Suppoſing then that the Time encreaſes at each Diviſion of the Veſſel in the Proportion of 1 to r, the Times will be in this geometrical Progreſſion, $1.\ r.\ r^2.\ r^3.\ r^4.\ r^5.$ *&c.* Now if the laſt Term be called u, the Sum of the Progreſſion, that is, the Sum of all the Times will be $=\frac{ru-1}{r-1}$: And if the Proportion of the Branches of the Meſenterick Artery be taken to be to one another as 10000 to 12687, the Number of Diviſions will be 36; and conſequently ſuppoſing an equal Diſtance between each Diviſion, the Blood moving with an uniform Motion, will require 37 times the Time to run thro' the whole Length of the Meſenterick Artery, that it does to move thro' the *Aorta* to the firſt Diviſion of the Meſenterick Artery. In this Proportion r is equal to 1.2687, whoſe Log. is 0.1033589, which multiplied by 36, gives the Log. of the Number 5259, which is the laſt Term of the Progreſſion, equal to u, and $ru = r^{37} = 6672$, therefore $ru - 1 = 6671$: Now if from the Log. of 6671 be abſtracted the Logs. of the Number of $r - 1$, or of 0.2687, there will remain the Log. of the Number 24826, which is the Sum of all the Times the Blood takes in moving thro' all the Diviſions of the Meſenterick Artery; and therefore the Time it takes in moving thro' the Meſenterick Artery, is to the Time it would run along it with ſuch an uniform Motion as it has at the beginning of the Artery, as 27826 to 37, or as 670 to 1. Now the Blood in the *Aorta,* or Beginning of the Meſenterick, runs at the rate of 78 Feet in a Minute; and therefore if the Meſenterick Artery be ſuppoſed to be 10 Inches long, the Blood will with a uniform Motion run along it in the ſpace of 0.64 of a Second: and conſequently it muſt now take up near 7 Minutes in paſſing thro' the Meſenterick Artery.

tery. But the Velocity in the *Porta* is to the Velocity in the Meſenterick Artery as 9 to 25; and therefore if the *Porta* be ſuppoſed likewiſe to be 10 Inches long, the Blood will be 19 Minutes in paſſing thro' it: ſo that the Time the Blood takes in paſſing from the *Aorta* to the Liver is at leaſt 26 Minutes; whereas if an Artery had gone directly from the *Aorta* to the Liver, according to the uſual Method of Nature, it had paſſed in a little more than half a Second, that is, is in 2437 times leſs than it now requires in paſſing. All which does evidently demonſtrate, that the Blood was not in a ſtate to yield Bile, if it had gone directly from the *Aorta* to the Liver; that a much greater Time, and a much more languid Motion than ſo direct a Paſſage could have allowed, was abſolutely neceſſary to get the bilious Particles in a readineſs to be ſeparated from the reſt of the Blood in the Liver. The Diviſions of the Arteries have been ſuppoſed of an equal Length, which indeed they are not, but may, for the eaſier Calculation, without any conſiderable Error, be taken equal to one another.

After this Care taken for the Formation of the Bile in the Blood which paſſes the Meſenterick Artery, a very conſiderable Piece of Mechaniſm of the like Nature is alſo employed for its Conveyance by the *Celiack* Artery to the Liver, for the ſame end: for it ſeems it was neceſſary to ſend a larger Quantity of Blood to the Liver than could be diſpoſed of thro' the Inteſtines. Part of the Blood of the *Celiack* Artery is ſpread upon the Stomach and Caul, and its Velocity diminiſhed, as we have ſeen, in the Inteſtines; but ſtill all the Blood which theſe Parts could receive, was not ſufficient for the Liver, and there was no room for the dividing and expatiating the Veſſels thro' ſuch a large Space as the Meſentery, and a long Tract of Guts. Here therefore is another extraordinary Contrivance, by emptying the Blood entirely out of the Veſſels into a large ſpungy Bowl, or Ciſtern provided for that Purpoſe. The Dimenſions of the Splenick Artery are uncertain; but the Circumference of the *Celiack* being half an Inch, or .5, its Square is .25; and therefore the Square of the *Splenick*, which is a Branch of it, cannot be above .18. Now the Dimenſions of the Spleen are 6 Inches in length, 3 or 4 in breadth, and 2 in thickneſs. This eaſy Suppoſition therefore may be made for the more eaſy Calculation, that it is a Cylinder of 2 Inches Diameter; and therefore the Square of its Circumference being 36, the Blood muſt move 200 times ſlower in the Spleen than in the Beginning of the Splenick Artery. From all which Contrivance it is evident the Velocity of the Blood was to be diminiſhed; and that ſuch a ſlow Motion was abſolutely neceſſary for the ſecerning of the Bile in the Liver. If the Humours which are ſeparated by the Glands are at all Times and Places the ſame in the Blood, and not formed after this manner, there would have been no occaſion for this Diminution of the Blood's Velocity. And from the Contrivance of the *Porta* particularly, the Bile receives another Advantage beſides the Diminution of its Velocity, and that is, by its running thro' ſo many different Parts before it comes to the Liver, it loſes the greateſt Part of the *Lympha*; by which means, the Particles that compoſe the Bile, approaching nearer to one another, are by their mutual Attraction ſooner united. And the Conſideration of theſe two Contrivances together, yet more firmly maintain the Truth of this Doctrine.

Jecur Uterinum: The *Placenta* is by ſome thus called, from the ſuppoſed Similitude of its Office with that of the Liver.

Jejunum. See *Inteſtines.*

Ignis, Fire. Beſides what is ſaid under *Heat*, which ſee, on this Subject; it may be obſerved, that the Chymiſts make ſeveral Diſtinctions of Fire, according to their different Degrees from the firſt to the fourth Degree; but there is no underſtanding well what belongs to them, unleſs by Practice.

Iliack Muſcle, is a Muſcle of the Thigh, which ariſes fleſhy from the internal concave Part of the *Os Ilium*; and in its deſcent over the inferior Part of it, joins with the *Pſoas magnus*, and is inſerted with it under the Termination of the *Pectineus.* This, with the *Pſoas magnus*, moves the Thigh forward in walking.

Iliack Paſſion, is a kind of nervous Cholick, whoſe Seat is the *Ilium*, whereby that Gut is twiſted, or one Part enters the Cavity of the Part immediately below or above; whence it is alſo called the *Volvulus*, from *volvo*, to roll.

Iliack Veſſels. See *Artery* and *Vein.*

Ilium. See *Inteſtines.*

Ilium Os. See *Oſſa Innominata*; all theſe from εἰλέω, *circumvolvo*, to roll about; becauſe the Gut which is principally called by this Name, is long, and lies in Folds towards the Bottom of the *Abdomen*, and therefore gives many of the adjacent Parts theſe Appellations.

Illegitimate, νόθος, is frequently uſed in the ſame ſenſe as Spurious, or Irregular; as when a Diſeaſe changes its Appearances from the uſual Courſe, ſo that no certain Judgment can be made of it; as in a *Febris Spuria*, *Peripneumonia Notha*, and the like.

Illutamentum, was an antient Form of an external Medicine, like the *Ceroma*, with which the Limbs of Wreſtlers, and others delighting in like Exerciſes, were rubbed, eſpecially after Bathing: an account of which may be met with in *Baccius de Thermis.*

Imagination, is that Faculty by which we, as it were, picture corporeal Subſtances in the Mind, as if we ſaw them actually with the Eyes: which can be illuſtrated in no Inſtances better than thoſe of right-lined Figures, where a Perſon may, by the Force of this Faculty, draw in his Mind, and diſcern, as if ſeen, ſo far as four, five, or ſix Sides; but further this will not reach; altho the Underſtanding can reaſon about the Properties of more complicated Figures, as well as of thoſe thus imagined or pictured to the Mind. How far this Faculty comes under a Phyſician's Regard, is pretty hard to ſay; but it is certain, that the common metaphyſical Accounts of it are entirely out of his Province.

Imbecillity, from *Imbecillitas*, Weakneſs; is a State of Languor, or Decay, wherein the Body is not able to perform its uſual Exerciſes or Functions.

Imbibe, from *imbibo*, to drink in, is uſed commonly in the ſame ſenſe as abſorbent, when a dry porous Body takes up one that is moiſt.

Imbricated, is uſed by ſome Botaniſts to expreſs the Figure of the Leaves of ſome Plants, which are hollow like an *Imbrex*, a Gutter-Tile.

Immature, is ſometimes applied to the Aliments, and ſometimes alſo to the animal Juices, not ſufficiently digeſted or concocted: But ſome Authors make a Diſtinction between this and Crude, too nice to be of any Uſe here. The Birth is ſaid to be *immature*, when a Woman miſcarries, or is deliver'd of a *Fœtus* not fully form'd, thro' want of the uſual time required for that Purpoſe.

Immerſus, ſunk, or hid; is a

Term given by *Bartholine*, and ſome other Anatomiſts, to a Muſcle, now commonly called *Subſcapularis*; which ſee.

Immerſion, from *immergo*, to dip; is the ſinking of any Body in a Fluid: which every Body will do that is ſpecifically heavier than the Fluid; and the Celerities of their Deſcents will be in Proportion to the Exceſs of Gravity. See *Hydroſtaticks*.

Impenetrability, is that Solidity of Matter or Body, whereby it cannot admit another into the ſame Place that it poſſeſſes.

Imperfect, is very critically uſed by ſome Writers, as every Individual of either Sex is ſaid to be imperfect with regard to the want of another in order to Generation, tho that very Diſtinction contributes to Perfection in themſelves; ſo alſo Mercury is called an imperfect Metal, becauſe it is not arrived to a fixed State, whereas was it ſo it would ceaſe to be Mercury: and ſo of many other Things.

Imperfect Flowers, are ſuch as want the *Petala*, and therefore they are ſometimes called *Apetalous*; and ſometimes *Stamineous*. See *Flower*.

Imperfect Plants, are ſuch as are thought to want Flower or Seed. See *Plants*.

Impervious, from *in*, the negative Sign, *per*, thro', and *Via*, a Way; is ſuch a Cloſeneſs of Pores, or particular Configuration of Parts, as will not admit another thro'.

Impetigo, is a cutaneous Foulneſs, divided into many ſorts by the Antients; but a better Knowledge in Secretion, and the Office of the cutaneous Glands, has taught us the Cure of all ſuch Diſorders without having any neceſſary recourſe to ſuch Diſtinctions; the Itch and Leproſy taking in the ſeveral kinds from the moſt eaſy to the moſt obſtinate Degree of Infection, according to which the Means of Cure are proportioned.

Impetus, hath been variouſly uſed by phyſical Writers; but now obtains only in Mechanicks to expreſs the Blow or Force with which one Body ſtrikes againſt another.

Implicated, is ſaid by *Celſus*, *Scribonius*, and ſome others, of thoſe Parts of Phyſick which have a neceſſary Dependence on one another; but hath more ſignificantly been applied by *Bellini* to ſuch Fevers, where two at a time afflict a Perſon, either of the ſame kind, as a double Tertian; or of different kinds, as an intermittent Tertian, and a Quotidian, called a Semitertian.

Impotence, is the want of any Power; but generally applied to an Inſufficiency in the Male to impregnate the Female.

Impoſthume, is a Collection of Matter or *Pus* in any Part, either from an Obſtruction of the Fluids in that Part, which makes them change into ſuch Matter, or from a Tranſlation of it from ſome other, where it is generated.

Impregnation, is cauſed by the Emiſſion of the Male-Seed in Coition, by which the Female conceives, or becomes with young. It is alſo hence figuratively uſed in Pharmacy for the ſating one Body with another, as any *Menſtruum* is ſaid to be impregnated with a Body that is diſſolved in it, as much as its Pores are able to receive.

Impuber, is ſaid of ſuch as have not yet Hair upon their Privy-parts, which beſpeaks a Ripeneſs for Generation; but *Helmont* with ſome others affirm Females capable of Conception before ſuch an Appearance.

Impulſe, is uſed in the ſame ſenſe as *Impetus*; which ſee.

Inadequate Idea, is a partial or incomplete Repreſentation of any thing to the Mind.

Inanimate, is ſaid of every thing which hath not animal Life.

Inanity, from *inanis*, empty, is the ſame as Vacuity, and implies the Abſence of any Body, ſo that nothing remains but Space.

Inappetency, is a Want or Loſs of Appetite.

Incantation, is uſed for a way of curing Diſeaſes by Charms, defended by *Paracelſus*, *Helmont*, and ſome other chymical Enthuſiaſts: but thoſe who have purſued a better way of Reaſoning have deſpiſed ſuch Deluſions.

Incaleſcence, is growing hot, as many Bodies do by Motion and Friction; or as Quick-lime, by pouring Water upon it.

Incarnation, from *in*, and *Caro*, Fleſh, is the healing or filling up Ulcers and Wounds with new Fleſh; and the Medicines which effect this, are commonly called *Incarnatives*.

Incide, from *incido*, to cut. Medicines are ſaid thus to do, which conſiſt of pointed and ſharp Particles, as Acids, and moſt Salts; by the Force or Inſinuation of which the Particles of other Bodies are divided from one another which before cohered. And thus ſome expectorating Medicines are ſaid to incide or cut the Phlegm. when they break it ſo as to occaſion its Diſcharge.

Incidence, from *incedo*, to fall, or go forward; expreſſes the Direction with which one Body ſtrikes upon another; and the Angle made by that Line, and the Plane ſtruck upon, is called the Angle of Incidence. In the Occurſions of two moving Bodies, their Incidence is ſaid to be perpendicular or oblique, as their Directions, or Lines of Motion, make a ſtrait Line, or an oblique Angle at the Point of Contact. See *Angle of Incidence*.

Incineration, from *in*, and *Cineres*, Aſhes; is the Reduction of any Body into Aſhes, by burning.

Inciſores. See *Teeth*.

Inclination, is when a clear Liquor is poured off from ſome *Fæces*, or *Sediment*, by only ſtooping the Veſſel; which is alſo called Decantation. This Term is alſo uſed in Phyſicks to expreſs the mutual Approach, or Tendency of two Bodies, Lines, or Planes towards one another; ſo that their Directions make either a ſtrait Line at the Point of Contact, or an Angle, of a greater or leſſer Magnitude. See *Incidence*.

Incommenſurable Quantities, are thoſe which have no aliquot Parts, or any common Meaſure that may meaſure them.

Incontinency, is ſaid of ſuch natural Diſcharges as are involuntary thro' Weakneſs, as of involuntary crying, *&c.* it is alſo applied to an Indulgence of unlawful Deſires.

Incorporation, from *in*, and *Corpus*, a Body, imbodying; is the mixing of the Particles of different Bodies ſo together, as to appear an uniform Subſtance, or Compoſition of the whole, without diſcerning the Ingredients, or Bodies mixed, in any of their particular Qualities.

Incorruptible, is applied by ſome to ſuch Medicines as will not decay; and *Incorrupta* is frequently ſaid of a Virgin, who hath had no venereal Intercourſe with a Man.

Incraſſating, is the rendring Fluids thicker than before, by the Mixture of leſs fluid Particles. See *Agglutination*.

Incubus, is called *Aſthma Nocturnum*, the Night-Aſthma, and Night-Mare; becauſe there ſeems a Weight upon the Breaſt as if ſomewhat rid upon it. The Cauſes are nearly the ſame as in a humerous Aſthma, and the ſame Means of Cure will alſo herein do ſervice; tho it is a Caſe that ſeldom happens, and very often is only in the Imagination, from the Impreſſion of Dreams, or a Diſtemperature of Thought.

Incurvation, is the bending a Bone, or any other Body, from its natural Shape.

Incus. See *Ear.*

Index, the Fore-Finger, from *indico*, to point, or direct, becauſe that Finger is generally ſo uſed. And hence the *Extenſor Indicis*, is alſo called *Indicator*.

Indicated, is that which is directed to be done in any Diſeaſe. And,

Indication, is of four kinds, vital, preſervative, curative, and palliative, as it directs what is to be done to continue Life, cutting off the Cauſe of an approaching Diſtemper, curing it whilſt it is actually preſent, or leſſening its Effects, or taking off ſome of its Symptoms before it can be wholly removed.

Indicating Days, are the ſame as critical Days.

Indignatorius Muſculus; a Muſcle is thus called, which is ſuppoſed to draw the Eye from its inner Corner outwards, which gives an Appearance of Scorn and Anger; but that is properly a compound Motion of two Muſcles: for which ſee *Eye.*

Induration, from *durus*, hard; are ſuch things as give a harder or firmer Conſiſtence to another, by a greater Solidity of their Particles, or as diſſipate the thinner Parts of any Matter, ſo as to leave the Remainder harder. Thus a Tumour is indurated either by the addition of earthy and ſolid Particles, as in *Schirri*, and knotty Swellings; or by tranſpiring the thinner Parts thro' the Skin, whereby the Remainder grows more fixed, as in an *OEdema.*

Inertiæ Vis. See *Nature*, Laws of.

Infant, hath by ſome been uſed ſo looſely as to expreſs a Child even in the Womb, but more ſtrictly to include from the Time of Birth to that of uſing Speech, as the Term *non fando*, or not ſpeaking imports; tho others again extend it to ſeven years of Age.

Infection, from *inficio*, to ſtrike into; is that manner of communicating a Diſeaſe by ſome *Effluvia*, or Particles, which fly off from diſtempered Bodies, and mixing with the Juices of others, occaſion the ſame Diſorders as in the Bodies they came from. See *Poiſons*: Tho,

Infectio, is ſometimes uſed in the ſame ſenſe as *Tinctura*; as the *Ars infectoria*, is the Art of Staining or Dying.

Infirmary, or *Infirmatory*, is the Place where ſick Perſons are taken care of either for Nurſing or Cure.

Inflammation, is when the Blood is obſtructed ſo as to croud in a greater Quantity into any particular Part, and give it a greater Colour and Heat than uſual. See *Phlegmon.*

Inflation, a blowing up, is the ſtretching or filling any Part with a flatulent or windy Subſtance.

Inflexion, is ſaid of the bending Rays of Light by a different Medium.

Influent, flowing together, or into; expreſſes any Liquor or Juice that by the Contrivance of Nature, and the Laws of Circulation, falls into another Current or Receptacle. Thus with reſpect to the common Receptacle, the Chyle is its influent Juice, and ſo is the Bile to the Gall-bladder, and Venal-Blood to the Heart in its *Diaſtole*; and the like.

Infra Spinatus, is a Muſcle of the Shoulder, pulling the Arm upwards and backwards. See *Supra Spinatus.*

Infundibulum, is a Funnel, whence many Parts in a human Body having any reſemblance thereunto in Shape, are thus called; as the *Infundibulum Cerebri*, and *Infundibulum Renum*; for which ſee *Brain*, and *Kidneys*: And ſome Parts of Plants, for the ſame reaſon, are called *Infundibuliformes.* See *Flowers.*

Infuſion, is a Part of Pharmacy whereby the Virtues of Plants, Roots and the like, are drawn out by letting them ſteep only in ſome convenient Menſtruum; and this is concerned in Bodies of a laxer Texture, than thoſe which require Decoction, and whoſe Parts are ſo light as not to admit of a greater Motion without hazard of flying away in Vapour.

Ingenite, inborn, is any Diſeaſe, or Habit, that comes into the World with a Perſon, and ſignifies the ſame almoſt as Hereditary.

Ingeſta, is uſed for the various kinds of Bodies received as Aliment into the human Stomach.

Ingluvies, is the Gizzard of Birds, but is alſo applied to an inordinate or voracious Appetite.

Ingravidation, the ſame as Impregnation or going with Child. There are many Inſtances in the Hiſtories of Phyſick, of Women in this Circumſtance without actual Reception of the Male Embraces, from an attractive Power in theſe Parts of the *Virile Semen*, when accidentally brought near thereunto, as floating in a Bath, *&c.* but they are ſuſpected to be fabulous.

Ingredients, from *Ingredior*, to go in together; are all the Simples which go into the Compoſition of any one Medicine.

Inguen, is from the upper part of the Thigh to above the ſecret Parts, and commonly called the Groin; and

Inguinalis, is given to any Subdiviſions made of that Part, or any thing therein contained, or applied thereunto as a Medicine.

Inhumation; ſome Chymiſts have fancied thus to call that kind of Digeſtion which is performed by burying the Materials in Dung, or in the Earth.

Injection, from *injicio*, to caſt or throw into, is any Medicine made to be injected by a Syringe, Clyſter-Pipe, or any other Inſtrument, into any part of the Body. It is a common Term likewiſe for the filling the Veſſels with Wax, or any other proper Matter, to ſhew their Shapes and Ramifications, often done by Anatomiſts.

Innate Heat. See *Calidum innatum*.

Innominatum, without a Name; many Parts of the Body are left under this indiſtinct Term; as the

Innominata Glandula Oculi, now called *Caruncula Oculi*. See *Eye*.

Innominata Tunica Oculi. See *Eye*.

Innominatum Os. See *Ilium*.

Inoculation, is the grafting of one Tree upon another; which is often ſo contrived as to have many different Fruits proceed from the ſame Stock, by grafting different Slips into its ſeveral Branches. This Term of late hath been alſo much uſed in a very different Manner, for the Practice now introduced of tranſplanting the Small-Pox, by Infuſion of the Matter from ripened Puſtules, into the Veins of the uninfected, in hopes of procuring a milder ſort than what frequently comes by Infection.

Inoſculation. See *Anaſtomaſis*, and *Artery*.

Inquietude, without Reſt; is any uneaſy Senſation, from what Cauſe ſoever, that prevents a Perſon's being at reſt or quiet.

Inſania, Madneſs; which ſee. Some diſtinguiſh, and juſtly enough, between this which is hereditary or from ſome Diſtemper, and that which is influenced by the heavenly Bodies, and particularly the Moon, which therefore is called Lunacy.

Inſectile, where *in* uſed in a privative ſenſe, as it frequently is, ſignifies that which cannot be further cut or divided, as an *Atom*; but,

Inſect, where *in* is taken poſitively, expreſſes ſuch Animals as are divided into, or encompaſſed with Rings or Diviſions, capable of being parted, without utterly deſtroying Life. Of theſe there are ſeveral

Kinds, and of which *Aldrovandus* hath given Deſcriptions ; but ſince it hath been much more accurately done by *Zwammerdam* in his *Hiſtoria Inſectorum generalis.*

Inſection, is variouſly uſed by Anatomiſts for the different Unions of the Parts with one another.

Inſipid, that which hath not Taſte.

Inſolation, from *in Sole,* in the Sun ; is Infuſion in the Warmth of the Sun.

Inſpiration, from *in* and *ſpiro,* to breathe in ; is that part of Reſpiration as draws the Air into the Lungs. See *Reſpiration.*

Inſpiſſate, to thicken ; is when a Liquid is brought to a thicker Conſiſtence by evaporating the thinner Parts : and thus Juices, as that of Liquorice, are inſpiſſated.

Inſtinct, is that Aptitude, Fitneſs, or Diſpoſition in any Creature, which by its peculiar Formation, it is naturally endowed with.

Inſtitutions, are a Syſtem of Laws or Rules in any particular Science ; and ſo phyſical or medicinal Inſtitutions are ſuch as teach the neceſſary *Præcognita* to the Practice of Medicine, or the Cure of Diſeaſes. Thoſe of the learned *Boerhaave* are a ſurprizing Performance of this kind, being done with the utmoſt accuracy ; but wrapped up too cloſe to be maſtered without a deal of Attention ; for which Reaſon it is greatly to be fear'd they are but little underſtood.

Integument, is uſed by Anatomiſts for any common Coverings of the Body, whether the *Cuticula Cutis,* or the Membrances of any particular Parts.

Intemperies, the ſame as a Dyſcraſy, or ill Habit.

Intention, is that Judgment or particular Method of Cure which a Phyſician forms to himſelf from a due Examination of Symptoms. In Phyſicks it ſignifies the Increaſe of any Power or Quality, as Remiſſion is its Decreaſe, or Diminution ; and in Metaphyſicks alſo it is uſed for the Exertion of the intellectual Faculties, with more than ordinary Vigour.

Intercoſtal, from *inter,* between, and *Coſtæ,* Ribs ; is any thing between the Ribs : hence

Intercoſtal Arteries, Veins, Nerves, *&c.* are thoſe which branch between the Ribs ; and

Intercoſtal Muſcles, are the external and internal, which are forty four in number, one of each ſort being between every two Ribs ; they ariſe from the lower Edges of each ſuperior Rib, and are inſerted into the upper Edges of each inferior Rib. Their Fibres decuſſate one another ; thoſe of the external run obliquely from the back-part forwards, but thoſe of the internal from the fore-part backwards ; they are thin and fleſhy.

Intermittent, is a Ceſſation of any particular Action for ſome time, and that Time is called the Interval : Thus Fevers which go off, and ſoon return again ; as alſo any other Diſtempers, are called Intermittents, in Oppoſition to thoſe which are always continued ; and a Pulſe which, after ſo many Strokes, ſtops, or loſes one in its due time, is alſo thus called.

Internodii, from *inter,* between, and *Nodium,* a Joint ; are in Botany thoſe little Spaces contained between any two Knots or Joints of the Stalk of a Plant ; and in Anatomy the *Extenſores Pollicis,* which ſee, are ſo called.

Interoſſei, from *inter,* between, and *Os,* a Bone ; the Muſcles which move the Fingers are thus called from their ſituation, being contain'd between the Spaces of the Bones of the *Metacarpus* : ſome reckon 6 of them, and others 8 : the one half

[illegible]

lie betwixt the Spaces theſe Bones leave towards the Palm of the Hand, and they are called the internal *Interoſſei*, ariſing from the upper part of the Bones of the *Metacarpus* next the *Carpus*; and being inſerted on the internal Sides of the firſt Bones of the Fingers with the *Lumbricales*, they are the *Adductores Digitorum*, for they bring the Fingers to the Thumb. The other half are contain'd in the Spaces that the Bones of the *Metacarpus* leave on the back of the Hand; they riſe from the upper part of the Bones of the *Metacarpus*, next the *Carpus*, and they are inſerted on the external Sides of the firſt Bones of the Fingers; and theſe are the *Abductores Digitorum*, for they draw the Fingers from the Thumb.

Interſpinales Colli, are two Muſcles that in part ariſe fleſhy, and partly tendinous, from the Spines of the Loins, and the interior part of the *Thorax*, and are inſerted into the fifth, ſixth, and ſeventh Spines of the *Thorax*; theſe join the *Longiſſimus Dorſi*: on another part they ariſe from the ſuperior Parts of each double ſpinal Proceſs of the Neck, except that of the ſecond *Vertebræ*, and are inſerted into the inferior Parts of all the Spines. Theſe Muſcles draw the Spines of the *Vertebræ* nearer to one another.

Intertrigo, is an Excoriation of the Thighs or Parts adjacent to the *Anus*, or what we commonly expreſs by *loſs of Leather*, by riding. 'Tis alſo ſometimes uſed to ſignify other kinds of chafing, or eroſion of the Skin, from internal Cauſes.

Inteſtines: Theſe make a long and large Pipe, which by ſeveral Circumvolutions and Turnings reaches from the *Pylorus* to the *Anus*: They are knit all along to the Edge of a Membrane called the *Meſentery*, and are ſix times as long as the Body to which they appertain, that the Chyle which eſcapes the *Lacteals* of one part of the Guts, may be taken up by thoſe of the next. They are compoſed of three Coats, of which the firſt and inmoſt is made up of ſhort Fibres bound together by five Blood-Veſſels, and diſpoſed as thoſe of the Stomach; for the lengh of the Fibres is the thickneſs of the Coat. If the Meſenterick Artery be carefully injected with warm Water, theſe will ſeparate from one another, and become viſible to the naked Eye. They act after the ſame manner as thoſe of the inner Membrane of the Stomach, for the contracting of the Cavity of the Guts. This Coat being much longer than the other, lies in Wrinkles or Plaits, called *Valvulæ Conniventes*, which in the ſmall Guts form larger Segments of Circles, and are cloſer to one another than in the great Guts, where they are broader, and ſeem chiefly deſign'd to ſuſtain the Weight of the *Fæces*; whereas the others, by retarding the Motion of the Chyle, and by directly oppoſing the Mouths of the lacteal Veſſels (which are in the upper ſides of the Valves) to its Paſſage, give it a more favourable Opportunity, and better Chance for entering, than otherwiſe it could have. This Coat has likewiſe a great Number of little Glands, which in the ſmall Guts lie in Cluſters every where but where they are knit to the *Meſentery*. In the great Guts they are much fewer, and are placed at ſome diſtance from one another. The uſe of theſe Glands is diſputed: ſome think that they ſeparate the Slime which beſmears the inſide of the *Inteſtines*, to defend them againſt the Acrimony of the Bile; but this comes more probably from ſome Remainders of the Chyle: Others take them for the Mouths of the lacteal Veſſels; but there are many Lacteals where there are no Glands. But if it be conſider'd that they are chiefly placed where the Lacteals are moſt numerous, it will be found reaſonable to think, that they ſeparate a Liquor for diluting the thick Chyle, that it may the more eaſily enter the narrow Orifices of the lacteal Veins. The ſecond Coat is made up of two Orders of muſcular Fibres; of which one runs ſtrait, according to the length of the Guts; the other goes round, and its Fibres are more reaſonably thought to deſcribe a ſpiral Line than Circles: for if, as ſome imagine, theſe Fibres were not ſpiral, but circular, it is not eaſy to conceive, how that conſtant and uniform Vermicular, or wave-like Motion of the Inteſtines, could be tranſmitted from part to part by Fibres which had no Communication with one another; but which having once ſurrounded the Guts, are at both ends fixed to the Edge of the *Meſentery*: whereas now, by the ſucceſſive Motion of the Parts of theſe two Orders of Fibres, the Guts are in a continual Undulation, which is called the *Periſtaltick* Motion, from περιστέλλω, *contraho*, to contract. The third and external Coat is common, and comes from the *Peritonæum*.

Tho the Inteſtines be one continued Pipe, yet they are divided into ſix Parts; three thin and ſmall, and three thick and great: The three former are the *Duodenum*, *Jejunum*, and *Ilium*; the *Duodenum* is the firſt part of the Inteſtines, which ſee under that word: the *Jejunum* begins at the firſt winding of the Guts under the *Colon*, where the *Duodenum* ends; and making ſeveral turnings and windings from the left ſide to the right, and from the right again to the left, it is continued to the *Ilium*, filling all the upper part of the umbilical Region, being about twelve or thirteen hands breadth long. It differs from the *Ilium* only in this, that it hath ſome more *Venæ Lacteæ*, into which the Chyle paſſing, it is found always more empty, and therefore called *Jejunum*, which ſignifies hungry: And the Folds of its inner Coat are nearer one another, and in greater number than the *Ilium*. The third and laſt of the ſmall Guts is the *Ilium*, about twenty one hands breadth long; it begins where the *Jejunum* ends, and making ſeveral turnings and windings, it fills all the lower part of the umbilical Region, and all the Space between the *Ilia*, and is continued to the beginning of the *Colon* at right Angles; its Paſſage is a little narrower than that of the *Jejunum*, and its Coats ſomewhat thinner. This Inteſtine, becauſe of its ſituation, falls eaſily down into the *Scrotum*, by the Production of the *Peritonæum*: In it alſo happens the *Volvulus*, when one part of this Gut enters the Cavity of the Part immediately above or below it. The thick and great Guts are the *Cæcum*, *Colon*, and *Rectum*: The two former are deſcribed under thoſe Names, which ſee. The *Rectum* is the laſt of the Inteſtines: it is a hand's breadth and a half long; its Cavity is about three Fingers in Diameter, and its Coats are thicker than thoſe of the *Colon*: It begins at the upper part of the *Os ſacrum*, where the *Colon* ends, and going ſtrait down, it is tied to the Extremity of the *Coccyx* by the *Peritonæum* behind, and to the Neck of the Bladder in Men, and in Women to the Neck of the Womb before, from whence comes the Sympathy between thoſe Parts. There is very much Fat about its external ſide, for which reaſon it is called the Fat-Gut;

Gut: Its Extremity forms the *Anus,* into which there are three Muſcles inſerted; the firſt is the *Sphincter Ani,* which is a fleſhy Muſcle about four Fingers broad, compoſed of circular Fibres, which embrace the Extremities of the *Rectum* for three Fingers height, and which hang over it another Finger's breadth: it is connected forward towards the *Acceleratores Urinæ* in Men, and to the Neck of the Womb in Women, and backwards to the *Os Coccygis.* Its Uſe is to ſhut the Paſſage of the *Anus,* which the Weight of the *Fæces* opens. The other two Muſcles are the *Levatores Ani*; they ariſe from the internal and lateral Side of the *Os Iſchii,* and are inſerted into the *Sphincter Ani*; they draw the *Anus* upwards. See *Meſentery.*

Intumeſcence, from *intumeſco,* to ſwell up; is any Tumour or Swelling.

Invaleſcentia, and *Invaletudo,* where *in* is taken privatively, is the want of Health; whence *Invalid,* is one diſabled by Sickneſs from Service.

Inveſtigate, is uſed for the ſame as enquire or ſearch out, but moſt commonly by Mathematicians, for the Solution of Problems.

Inveterate, is applied to Diſeaſes in the ſame ſenſe as obſtinate, and generally likewiſe ſuppoſes a long Continuance; but the Diſtinctions which ſome Writers make between this and *Chronical,* are hardly worth mentioning here.

Involucrum, is ſaid of any common Covering of particular Parts in the Body; whence,

Involucrum Cordis, is the *Pericardium*; which ſee.

Involuntary, is ſaid of any natural Excretion, which happens thro' Weakneſs or want of Power to reſtrain it; as alſo of all convulſive Motions, where the Muſcles are invigorated to Action, without the Conſent of the Mind.

Inuſtion, is ſometimes uſed for hot and dry Seaſons; but moſt commonly by Surgeons for the operation of the *Cautery.*

Iris. See *Eye.*

Irritation, is a Species of *Stimulus,* expreſſing a leſſer Degree of it than Vellication, or Corrugation.

Irradiation, is an Emanation, or ſhooting out of ſubtile *Effluvia* from one Body to another. See *Quality.*

Irregular Bodies, are Solids not terminated by equal and like Surfaces.

Iſchium, from ἰσχύω, *ſuſtineo,* to ſuſtain, is one of the *Oſſa innominata,* which ſee; hence *Iſchias,* and *Iſchiadick,* are uſed for the Hip-Gout, and Pains of that Part.

Iſchuria, from ἴσχω, *cohibeo,* to reſtrain, and οὖρον, *Urina,* Urine; is a Stoppage of Urine, whether by Stone, Gravel, or any other Cauſe.

Iſchureticks, are ſuch Medicines as force Urine when ſuppreſſed.

Iſthmus, ſignifies ſtrictly a Neck of Land, and is therefore uſed by Anatomiſts for ſuch Parts as in their Situation have any reſemblance thereunto; as that Part which lies between the Mouth and the Gullet, and the Ridge that ſeparates the Noſtrils: There is alſo a Contrivance in the *Vena Cava,* which ſee, thus called.

Itinerarium, the ſame as *Catheter,* which ſee.

Jugular Arteries, and *Veins.* See *Arteries* and *Veins.*

Jugulum, the ſame with *Furcula,* and *Clavicula,* which ſee.

Julap, from the *Perſian* Word *Juleb,* which ſignifies a ſweet Potion. This is an extemporaneous Form of Medicine, made of ſimple and compound Water ſweetned, and ſerves principally for a Vehicle to other Forms not ſo convenient to take alone.

Julus, is a Term which Botaniſts give to thoſe long Worm-like Tufts, or Palms, as they are called in Willows, which at the beginning of the Year grow out, and hang pendulous down from Hazels, Wallnut-Trees, *&c.*

Juncture, is any kind of Joint, or cloſing of two Bodies.

Jupiter, is uſed by the Chymiſts for Tin, becauſe ſuppoſed under the Government of that Planet.

Juxta-Poſition, from *Juxta*, nigh, and *pono*, to put, is that Diſpoſition of Parts in any Body, whereby they are joined and combined together.

K

Kibes, is a Stagnation of the Blood in the Hands or Feet, but eſpecially the Heels, attended with Inflammation, Heat, Pain, Tumefaction, and itching. They ſometimes ſuppurate, but often go away of themſelves without breaking, if the Part be defended from the external Cold.

Kidneys : Theſe are two in number, one on each ſide; they have the ſame Figure as Kidney-Beans; their length is 4 or 5 Fingers, their breadth 3, and their thickneſs 2 : The right is under the Liver, and the left under the Spleen. In a *Fœtus* their external Subſtance is divided into ſeveral Lobes joined together, which in Adults become more cloſe; therefore their Superficies is equal and ſmooth. They have two Membranes, the one common for the *Peritonæum*, the other proper : they are ordinarily cover'd with much Fat; their Colour is a dark red.

There are in the Kidneys Lymphatick Veſſels, which diſcharge themſelves into *Pecquet*'s *Reſervatory*, *i. e.* the common Receptacle; Nerves, which come from the Intercoſtals; Veins, which go to the *Cava*; and their Ateries come from the *Aorta*. Theſe Veins and Arteries are call'd Emulgents, they pierce the Reins or Kidneys on their concave ſides (which lie neareſt the *Cava* and *Aorta*) included in one *Capſule*, and are divided into ſeveral Branches, which ſurround the *Pelvis*. Theſe Branches are again divided into an infinity of others leſs, which go to the external part of the Reins, where they inoſculate, and form a ſort of Net, from which their Extremities coming, terminate in an infinity of little Glands. Theſe Glands are of a round Figure, and compoſe the outer Subſtance of the Reins, which is half a Finger thick; from each of thoſe goes a long ſmall Tube, which Tube compoſes the inner Subſtance of the Reins. As they approach the *Pelvis* or Baſon, they gather together in little Bundles, whoſe Extremities piercing the Membrane of the *Pelvis*, form thoſe little Protuberances on the inſide of the *Pelvis*, call'd *Papillæ*. The *Pelvis* or Baſon is a Cavity in the middle of the Kindeys, form'd by a dilatation of the *Ureters*. It ſends out ſeveral Ramifications, which divide the Urinary Tubes into Bundles, and which make a ſort of *Capſula* to the Blood-Veſſels.

The uſe of the Kidneys is to ſeparate the Urine from the Blood, which by the motion of the Heart and Arteries is thruſt into the Emulgent Branches, which carry it to the little Glands, by which the Seroſity being ſeparated, is receiv'd by the Orifice of the little Tubes, which go from the Glands to the *Pelvis*;

from thence it runs by the *Ureters* into the Bladder. The Blood which could not enter the Glands is brought back by the Emulgent Veins. The Urine thus ſeparated conſiſts of much Salt floating in Water; on which account it is that the Kidneys have their Situation ſo near the Heart: for were they at a greater diſtance, other Particles muſt have united with the Salts and aqueous Particles (as in the preſent Station ſome terreſtrial Particles do) and diſturbed their Secretion; beſides the impoſſibility of their having ſuch a Quantity of Blood waſh thro' them at a more diſtant Station.

In the middle between the *Aorta* and Kidneys, a little above the Emulgent Veſſels, are ſituated the *Glandulæ Renales* or *Capſulæ Atrabilares*; they are two in number, one on each ſide, wrapt up in ſome Fat; they ſometimes change their Situation, and their Figure is alſo various: for in ſome they are round, in others ſquare, triangular, or of an irregular Figure; the right is ordinarily bigger than the left, and each about the bigneſs of a *Nux Vomica*. In a *Fœtus* they are almoſt as big as the Kidneys. They are covered with a fine Membrane, and within they have ſeveral ſmall *Sinus*'s which contain a blackiſh ſort of Liquor. Their Blood-Veſſels are Branches ſometimes of the *Vena Cava* and *Aorta*, and ſometimes of the Emulgents. The intercoſtal Nerve furniſhes a Branch which makes a *Plexus* upon them. Their uſe is not yet known: Some think they ſeparate a Liquor from the Arterial Blood, for diluting the Blood, which is too thick after it comes from the Kidneys.

The *Ureters* are two long and ſmall Canals which come from the Baſon of the Kidneys, one on each ſide; they lie betwixt the doublings of the *Peritonæum*: and deſcending in the Form of an S, they pierce the Bladder near its Neck, where they run firſt ſome Space between its Coats, and then they open in its Cavity: They are compoſed of three Coats; the firſt is from the *Peritonæum*; the ſecond is made of ſmall oblique muſcular Fibres; and the third, which is very ſenſible, has ſeveral ſmall Glands which ſeparate a ſlimy Liquor, to defend it againſt the Acrimony of the Urine. The neighbouring Parts furniſh them with Blood-Veſſels, and their Nerves come from the Intercoſtals, and from the *Vertebræ* of the Loins. Their Cavity is contracted ſometimes in three or four Places, eſpecially towards the Bladder. Such as are ſubject to the Gravel, and given to exceſſive Drinking, have them ſometimes ſo much dilated, that you may put the end of the little Finger into them. Their uſe is to carry the Urine from the Kidneys to the Bladder. Their Obſtruction cauſes a Suppreſſion of Urine.

L

L*Abra*, or *Labia*, ſtrictly ſignifies the Lips, but is uſed figuratively to expreſs many other parts of a human Body, that by their Figure have any reſemblance thereunto; as the *Labia Pudenda*, are the exterior Parts of a Woman's Privities, *&c.* and the Lips of Wounds are alſo thus called. See *Mouth*.

Labial Glands. See *Mouth*.

Labiate Flowers. See *Flower*.

Laboratorium from *Labor*, Work, is any Work-Room, but is chiefly given to thoſe of Chymiſts where their Furnaces, *&c.* are built.

Labyrinth, part of the *Ear*, which ſee, is ſo called.

Lac, Milk. See *Breaſts*.

Lachrymal Ducts,

Lachrymale Punctum, and

Lachryma, Tears. See *Eye*.

Lactation, from *Lac*, Milk; is giving ſuck, and ſignifies the Time a Woman does that Office to a Child.

Lacteal Veins: Theſe are long and ſlender Pipes, whoſe Coats are ſo thin as to become inviſible when they are not diſtended with Chyle or *Lympha*. They ariſe from all the Parts of the ſmall Guts by fine Capillary Tubes, which as they run from the ſides of the Guts to the Glands in the Meſentery, unite and form larger Branches; theſe are called *Venæ lacteæ primi generis*. The Mouths of theſe Lacteals, which are open into the Cavity of the Guts, from whence they receive the Chyle, are ſo ſmall as not to be ſeen by the beſt Microſcope. It was neceſſary they ſhould be ſmaller than the fineſt Arteries in the Body, that nothing might enter which might ſtop the Circulation of the Blood. The ſame Extremity of the Lacteals has likewiſe Communication with the capillary Arteries of the Guts, by which they receive a *Lympha* that dilutes and propels the Chyle forwards, and waſhes the Lacteals and Glands, that they may not fur, and be obſtructed by the Chyle's ſtaying in them upon faſting. The other Extremity of the Lacteals diſcharges the Chyle into the veſicular Cells of the Glands diſperſed up and down the Meſentery. And from theſe ariſe other Lacteals of a larger ſize, which carry the Chyle immediately into the *Receptaculum Chyli*; they are called *Lacteæ ſecundi generis*. The lacteal Veins have Valves at ſeveral Diſtances, which hinder the Chyle from returning back into the Inteſtines. *Aſſellius*, who firſt diſcover'd the lacteal Veſſels in the Year 1622. and his Followers, thought they carry'd the Chyle to the Liver, till *Pecquet*, in the Year 1651, found out the *Receptaculum Chyli*, or common Receptacle, and *Ductus Thoracicus*, or Thoracick Duct; tho both were acurately deſcribed by the learned Anatomiſt *Bartholomæus Euſtachius*, many years before the Diſcovery of the Lacteal Veins.

The Receptacle of the Chyle is eaſily found in living Bodies, but with greater difficulty in thoſe that are dead. It lies between the deſcending Trunk of the great Artery, and the *Vertebræ* of the Loins, and is biggeſt between the Cœliac and Emulgent Arteries, ſurrounded by ſeveral Veſicular Glands, call'd *Glandulæ Lumbares*, which diſcharge their *Lympha* into it. The Receptacle receives all the ſecond order of *Lacteals*, as well as all the Lymphatick Veins both of the Legs, and of all the Parts of the *Abdomen*; ſo that it ſeems to be indeed only a Bag (which will contain about one Ounce of Water) formed by the Union of theſe Veſſels. The bottom of it contracts to the Smallneſs of a Lymphatick Veſſel, the middle is ſometimes divided into two or three Parts, and the upper Part ſtretches it ſelf out into a Duct about the bigneſs of a Gooſe-Quill. This Duct aſcends into the *Thorax* behind the great Artery; and about the Heart it frequently divides into two or three Branches, which immediately unite again into one, and creeping along the Gullet, it marches to the left *Subclavian* Vein, where it opens at one or two Orifices, which are cover'd with a ſemilunar Valve, that the Blood may paſs over them, and the Chyle run from underneath it, and mix with the Blood in the Veins. The *Ductus Thoracicus* has Valves at ſeveral diſtances, which hinder the Chyle that has once paſſed them from falling back. It receives the Lymphaducts from the ſeveral Parts in the Cheſt, as it paſſes along to the *Subclavian* Vein. By its running up to the left Side, the Chyle receives a new *Impetus* from the Pulſation of the great Artery; whereas on the right Side it muſt have aſcended only by the Preſſure of the Diaphragm, and Muſcles of the lower Belly upon the Receptacle, which it equally enjoys in its preſent Situation.

Lacunæ. See *Parts of Generation proper to Women.*

Lætificans, ſtrictly ſignifying to make joyful, hath been applied to many Compoſitions under the Intention of Cordials, but both the Medicines and Diſtinction are now almoſt quite in diſuſe.

Lambative, from *lambo*, to lick. See *Eclegma.*

Lambdoides. See *Suture.*

Lamellæ, and,

Laminæ, Plates, ſignify pretty much the ſame; but the former is generally applied to the Diviſion of Shells, and the latter to that of the Skull, which are alſo called Tables, being only two in number: Tho moſt Shells are diviſible into a great many ſuch Plates lying over one another.

Laminated, plated, ſignifies ſuch Bodies whoſe Contexture diſcovers ſuch a Diſpoſition as that of Plates lying over one another.

Lancet the common Inſtrument of the Surgeons, with which they let Blood.

Languor, and *Laſſitude*, ſignifies a Faintneſs, which may ariſe from a Want or Decay of Spirits, thro' Indigeſtion, or too much Exerciſe; or for an additional Weight of Fluids, from a Diminution of Secretion by the common Diſcharges. The firſt is remedied by Stomachicks and Cordials, and the latter by timely Evacuation.

Lanugo, ſignifies a Down, or ſoft woolly Subſtance which grows upon ſome Plants; which therefore are called

Lanuginous Plants.

Lapideſcent, from *Lapis*, a Stone; is that which has a Property of turning any Bodies into a ſtony Nature, as many Spring-Waters will do to Pieces of Wood and other like Subſtances: and is the ſame as *Petrifying*. *Paracelſus* calls the ſame Faculty in an human Body,

Lapillation.

Laryngotomy, from *Larynx* and τέμνω, *ſeco*, to cut, is that Operation where the fore-part of the *Larynx* is divided, to aſſiſt Reſpiration, during large Tumours upon the upper Parts; as in a Quinſey, *&c.* Tho the common Prejudices againſt this are ſo ſtrong, that many are loſt for want of it. *Aquapendens* particularly directs this Operation, *De Oper. Chirurg.* under the Title *De Perforatione aſperæ Arteriæ in Angina*; and *Aurelius Severinus* does the ſame, *Chir. Efficac. Part* II. *Cap.* 40.

Larynx, Λάρυγξ, is the upper Part of the *Trachea*, and lies below the Root of the Tongue before the *Pharynx*. It is compoſed of five Cartilages, which ſometimes in old Men become as hard as Bones. The firſt is the *Thyroides,* or *Scutiformis,* becauſe of its Figure, θυρεὸς, ſignifying a Shield, and εἶδος, Figure. It makes that Protuberance in the fore-part of the *Layrnx,* called *Pomum Adami.* It is a thin Cartilage, about an Inch broad, but not ſo long; it's concave within, and convex without. Its four Angles have each a ſmall Production; the two upper, which are longer, are tied to the Horns of the *Os Hyoides,* and the two lower to the ſecond Cartilage, which is called *Annularis,* becauſe it reſembles a Ring. It is very large and thick behind, which part reſembles the Stone of a Ring, and it grows narrower towards its fore-part. It is ſituated below the other Cartilages of the *Larynx*; they ſtand upon it as upon a Baſis, and by it they are tied to the *Trachea.* The third and fourth are alike, and have one common Name, which is the *Arytenoides.* They reach from the middle of the concave Sides of the *Thyroides* to the upper and back part of the *Annularis*; and they make that Chink, or *Rimula,* which is the Mouth of the *Larynx,* called *Glottis.* Betwixt thoſe and the Sides of the *Thyroides,* there are two ſmall Cavities on each ſide, formed by the Muſcles and Membranes which join them together; in which if a little Drink or Bread fall, as ſometimes happens when one laughs or ſpeaks in eating or drinking, it cauſes a violent Cough, and a great Tickling. The fifth and laſt Cartilage is the *Epiglottis*; it's of a ſofter Subſtance than the others, and reſembles a little Tongue. It is tied by its Baſis to the upper and middle part of the concave Side of the *Thyroides.* Its uſe is to cover the *Glottis* in eating and drinking; for the Aliments by their Weight preſs it cloſe down upon the *Glottis,* and they paſs over, without entring the *Larynx,* into the *OEſophagus*: but when the Aliments are paſt, the *Epiglottis* by its natural Reſort, which is common to all Cartilages, lifts up again, and gives way to the Air in breathing. Whilſt we ſpeak or laugh, the *Glottis* muſt neceſſarily be open for the Paſſage of the Air in breathing, therefore it is not convenient to ſpeak whilſt we ſwallow.

The *Larynx* has two Pair of common Muſcles, and five Pair proper. The firſt of the common Muſcles is the *Sternothyroides.* It ariſes from the upper Part of the Inſide of the *Sternum,* and aſcending on the Sides of the *Trachea,* it is inſerted to the lower Part of the Sides of the *Cartilago Scutiformis.* When theſe Muſcles act, they pull this Cartilage downwards. The ſecond is the *Hyothyroides.* It ariſes from the lower part of the *Os Hyoides,* and deſcending, is inſerted into the lower part of the *Scutiformis,* near the former. They pull up the *Larynx.* The firſt of the proper Muſcles is the *Cricothyroides.* It ariſes from the Fore-part of the Cartilage *Cricoides,* and running under the *Thyroides,* it is inſerted into the Inſide of that Cartilage. The ſecond is the *Crico-Arytenoides lateralis.* It ariſeth from the lateral part of the *Cricoides,* and aſcending is inſerted into the lateral part of the *Arytenoides.* This dilates the *Arytenoides.* The third is the *Crico-Arytenoides poſticus.* It ariſes from the back-part of the Cartilage *Cricoides,* and is inſerted into the *Arytenoides,* near the former. The fourth is the *Thyro-Arytenoides.* It ariſeth from the internal and concave Side of the *Scutiformis,* and is inſerted into the Fore-parts of the *Arytenoides.* It contracts the *Rimula.*

The fifth Muſcle is the *Arytenoides.* It runneth upon the upper part of the Cartilage *Arytenoides,* and with its Fellow forms a Sphincter for contracting the *Rimula.*

The *Larynx* receives Neins from the *Jugulars,* Arteries from the *Carotides,* and Nerves from the *Recurrent.*

On the lower part of the *Larynx,* upon the ſides of the annular Cartilages, and of the firſt Ring of the *Trachea,* there are two Lymphatick Glands, called *Thyroideæ,* of the Figure of a Pear; their Colour is red: they have Veins, Nerves and Arteries, as the *Larynx.*

The uſe of the *Larynx* is not only to form the Voice, but alſo, by the different Apertures of its *Rimula,* the Lungs are more or leſs compreſſed by the Air; for if the Aperture of the *Larynx* had been as wide as the *Aſpera Arteria,* the Lungs could have ſuffered little or no Compreſſion. Had it not been for the *Layrnx,* we could have received no benefit by breathing; for if the Mouth of the *Aſpera Arteria* had been large and wide, the Air had not reſiſted that Force by which it is thruſt out in Expiration, ſo as to make any Compreſſion upon the Lungs, whereby the Globules of the Blood could have been diſſolved, or the Particles of both Fluids mixed together, which we find ſo neceſſary to Life, that we die without it. Nor does the *Larynx* only preſerve Life, but it likewiſe conduces to render it happy and agreeable, by forming the Voice, which is the Sound of the Air drove thro' the narrow Chink of the *Glottis,* with a Velocity greater than in an ordinary Reſpiration. This Sound is encreaſed by the Cavities of the Mouth and Noſe, which reſound like the hollow of a Violin, as is evident by the trembling to be felt in the Noſe while we ſpeak. And theſe Cavities not only encreaſe, but alſo conduce to the Agreeableneſs of the Voice; for how diſagreeable is the Alteration of the Voice, which follows a Loſs or Stoppage of the Noſe? And the Dimenſions of the Mouth are always proportioned to the Notes formed in the *Glottis*; low Notes being conſtantly attended with a Prolongation, and high Notes a Contraction of its Cavity. The Notes themſelves are formed by the different Apertures of the *Glottis*: for when the *Glottis* is contracted, the Air being drove by an equal Force, muſt move more ſwiftly; and the Sides of the *Glottis* being more tenſe, their Vibrations muſt be quicker and ſhorter, and conſequently the Note high. The contrary happeneth when the *Glottis* wideneth. Each Note is capable of all Degrees of Strength; for the Strength of the Voice is always proportionable to the Quantity of Air thrown out of the *Larynx,* in ſounding of the ſame Note. Now, if the Strength of the Note is to be encreaſed, the Diaphragm, but more eſpecially the muſcular Fibres of the *Trachea Arteria,* contract more ſtrongly, and thruſt out a greater quantity of Air; and the Aperture of the *Glottis* encreaſes proportionably, that this great Quantity of Air may paſs thro' with the ſame Velocity as before, and that the ſame Note may be continued. Now ſuppoſing the greateſt Diſtance of the two Sides of the *Glottis* to be one tenth Part of an Inch in ſounding of twelve Notes, to which the Voice eaſily reaches, this Line muſt be divided into twelve Parts, each of which gives the Aperture requiſite for ſuch a Note, with a certain Strength. But if we conſider the

Subdiviſion of Notes into which the Voice can run, the Motion of the Sides of the *Glottis* is ſtill vaſtly nicer; for if of two Chords ſounding exactly Uniſons, one be ſhortened $\frac{1}{2000}$th Part of its Length, a juſt Ear will perceive the Diſagreement: and a good Voice will ſound the Difference, which is $\frac{1}{198}$th Part of a Note. But becauſe this is a great Nicety, we will only ſuppoſe that Voice can divide a Note into a hundred Parts, from thence it will follow that the different Apertures of the *Glottis* actually divide the tenth Part of an Inch into 1200 Parts, the Effects of each of which produces a ſenſible Alteration upon a good Ear. But becauſe each ſide of the *Glottis* moves juſt equally, therefore the Diviſions are juſt double, or the Sides of the *Glottis*, by their Motion, do actually divide one tenth Part of an Inch into 2400 Parts.

Laſſitude, Laſſitudo, Wearineſs. This generally expreſſes that Wearineſs which proceeds from a diſtemper'd State, and not from Exerciſe, becauſe that wants no Remedy but Reſt; and proceeds from an Encreaſe of Bulk, from a Dimunition of proper Evacuation, or from too great a Conſumption of that Fluid which is neceſſary to maintain the Force and Spring of the Solids, as in Fevers and Convulſions; or from a viciated Secretion of that Juice, whereby the Fibres are not ſupplied either in due Quantity or Quality. The Remedy in the firſt Caſe is Evacuation; in the latter, proper Diet, or ſuch alterative Medicines as influence ſuch a Secretion.

Lateralis Morbus, the Side-Diſeaſe; ſome thus call the Pleuriſy.

Latiſſimus Dorſi, from *latus,* broad, is a Muſcle ſo called from its Shape, covering almoſt the whole Back. It hath a thin, broad, tendinous Beginning, which comes from the poſterior Part of the Spine of the *Ilium,* from the ſuperior Spines of the *Os Sacrum,* from all the Spines of the *Vertebræ* of the Loins, and from the ſeven lower of the *Thorax*; it paſſes by the inferior Angle of the *Scapula,* from which ſome of its fleſhy Fibres ſometimes ariſe, and is inſerted with the *Teres Major* by a ſtrong and broad Tendon, with which it pulls the Arm downwards.

Latitude. It is well known what Signification this generally bears; but by Latitude of Health, to which Phyſicians only apply it, is underſtood that Deviation from a certain Standard of Weight and Bulk, which a Perſon can admit of without falling into a Diſeaſe; and concerning which, *Sanctorius* hath given ſome excellent Aphoriſms in his *Medicina Statica.*

Laxative, ſignifies looſe in Body, ſo as to go frequently to ſtool. And,

Laxative Medicines, are ſuch as promote that Diſpoſition; which they do by ſome ſmooth ſoftening Quality, taking away all Tenſity of the Fibres, and facilitating the Paſſage of the Contents of the inteſtinal Tube thro' it: for which reaſon all oily Subſtances come under this Claſs.

Laxity of a Fibre, is that degree of Coheſion in its Parts, which a ſmall Force can alter ſo as to increaſe its length beyond what is natural; and therefore is a Species of Debility.

Lectiſternium, is uſed by ſome Writers for all that Apparatus, which is neceſſary for the Care of a ſick Perſon in Bed. And, *Lectualis*, is ſaid of a Perſon whoſe Diſtemper requires him to be confined in Bed; ſignfying the ſame as *Clinicus*, κλινικὸς amongſt the *Greeks*, from κλίνη, *Lectus*, a Bed.

Legumen, in Botany, ſignifies that Species of Plants which is called *Pulſe*; and theſe are ſo named, becauſe they may be gathered with the Hand without cutting. All thoſe Plants, which have a *Papilionaceous*, or Butterfly-like Flower, are reckoned by Mr. *Ray* among the *Legumina*.

Lemma, is a Term uſed chiefly by Geometrical Writers, and ſignifies a Propoſition, which ſerves previouſly to prepare the Way for the more eaſy Apprehenſion of the Manner and Steps by which ſome Theorems are demonſtrated, or for the Conſtruction of ſome Problem. Thus to prove that a Pyramid is $\frac{1}{3}$ of a Priſm, or Parallelopedid of the ſame Baſe and Height with it; the Demonſtration of which in the ordinary Way being difficult and troubleſome, this *Lemma* may be premiſed, which is proved in the Rules of Progreſſion: *That the Sum of a Series of the Squares of Numbers in arithmetical Proportion, beginning from* 0, *and going on* 1, 4, 9, 16, 25, 36, &c. *is always ſubtriple of the Sum of as many Terms equal to the greateſt; or is always* $\frac{1}{3}$ *of the greateſt Term, multiplied by the Number of Terms.* Thus alſo to find the Inflection of a curve Line this *Lemma* is firſt premiſed: *That a Tangent may be drawn to the given Curve in a given Point.* Thus likewiſe in Phyſicks, to the Demonſtration of moſt Propoſitions, ſuch *Lemmata* as theſe are neceſſary firſt to be allow'd: *That there is no Penetration of Dimenſions; That all Matter is diviſible;* and the like. As alſo in the Theory of Medicine; *That where the Blood circulates, there is Life*, &c.

Lens, is a Term in Opticks for a convex or concave Glaſs that is made to throw the Rays of Viſion into a Point; whence alſo the cryſtalline Humour of the Eye, from its Performance of the ſame Office, is by ſome Anatomiſts ſo called.

Lenticula, is uſed either as a Diminutive of the foregoing, or in the ſame Senſe as *Lentigo*, which ſee underneath, or for a particular Kind of Fever, the ſame as *Petechialis*, which throws upon the Skin little Spots, like Flea-Bites, but ſomewhat larger; in which laſt Senſe, *Langius Forreſtus*, and ſome others uſe it. *Peierus* likewiſe, *Exercit. de Glandulis lis Inteſtinalibus*, calls the Glands of the larger Guts, which ſpue out a Slime for lubricating their inner Membrances, *Glandulæ Lenticulares*.

Lentigo, ſignifies a freckly or ſcurfy Eruption upon the Skin; ſuch eſpecially as is common to Women in the Time of Child-bearing. Some Authors are more nice in diſtinguiſhing ſeveral kinds of this Eruption, and diverſifying them by hard Names, than it is worth any body's time to give regard to.

Lentor, hath been uſed by ſome antient Writers to Purpoſes now in neglect, and at preſent is chiefly retained from the Example of *Bellini* to expreſs that ſizy, viſcid, coagulated Part of the Blood, which in malignant Fevers obſtructs the capillary Veſſels, and is the chief Inſtrument of all thoſe Miſchiefs which then happen; ſee *Bellini de Febribus*, particularly

Prop. 19 and 20, but chiefly the *Introduction* to an *Engliſh* Tranſlation of *Bellini* on that Subject.

Leo, beſides its Application to a particular Animal, commonly known, is alſo by phyſical Writers uſed in various Senſes; as for a Diſeaſe known to the *Greeks* by the Name of λεοντίασις, which is a Species of a Leproſy, the ſame as *Elephantiaſis*; but the Chymiſts have moſt grievouſly tortured it by applying it to ſeveral of their Whimſies, now too much in contempt, to deſerve any notice here.

Lepidoeides, from λεπὶς, *Squamma*, a Scale, and εἶδος, *Forma*, a Shape; is applied to ſome of the Sutures of the Head; as is *Lepidoſarcoma*, by *M. Aurel. Severinus*, to ſome fleſhy Excreſcences reſembling Scales in Shape.

Leporina Labia, is when the upper Lip hath a natural Defect in the Middle, like a Slit towards the Noſe, reſembling that of an Hare, whence it is commonly called an Hare-Lip; *Sennertus* calls the ſame *Roſtra Leporina*; and the *Greeks* expreſſed the ſame by λαγόχειλοι, λαγὼς ſignifying the ſame as *Lepus*.

Lepra, Leproſy; is undoubtedly from the ſame Derivation as *Lepidoeides*, being a ſcurfy Eruption upon the Skin; and ſeems to have been a Diſtemper much more common among the Antients, and in warmer Climates, than among us in this Part of the World; or elſe they have been nicer in diſtinguiſhing it into ſeveral Kinds than it deſerved; as may be ſeen in moſt of the Commentators upon the Antients, and eſpecially the Lexicographers. The greateſt Difference of it ſeems moſt to be owing to the Difference of Climates, and Ways of living: Hence the *Lepra Græcorum*, and *Lepra Arabum*, appear differently deſcribed; but it concerns us to know little of thoſe Matters, or their Method of Cure, theſe northern Leproſies requiring a more efficacious Management, as they will not give way but to the moſt powerful *Mercurials*: tho' the Addition of Bathing is a greater Help than moſt by their Practice ſeem to be ſenſible of.

Lethargy, λήθαργος, or ληθαργία, from λήθη, *Oblivio*, Forgetfulneſs; is a Diſtemper where there ſeems to be an utter Loſs of all the rational Powers, and Inaptitude to Motion; whence ſome have fancy'd to call it *Deſidia oblivioſa*. *Stimuli* are therefore chiefly uſed in its Cure.

Levatores Ani. See *Inteſtines*.

Levator Scapulæ, is a Muſcle which ariſes from the ſecond, fourth, and fifth of the tranſverſe Proceſſes of the Neck, by ſo many diſtinct Beginnings, which unite, and are inſerted into the ſuperior Angle of the *Scapula*, which it draws upward, the Word *Levator* importing a Lifter up. It is alſo called *Muſculus Patientiæ*, becauſe it is uſed to expreſs Grief.

Leuce, λεύκη, by the *Latins*, *Alba Vitiligo*, and *Lepra alba*, is a Species of the *Leproſy*, where the Eruptions are whiter and ſmoother; but not ſo eſſentially differing, as to require any thing particular in its Cure.

Leucophlegmatick, from λεῦκον, *album*, white, and φλέγμα, *Pituita*, Phlegm; ſignifies ſuch a Conſtitution of Body where the Blood is of a pale Colour, viſcid, and cold, whereby it ſtuffs and bloats the Habit, or raiſes white Tumours in the Feet, Legs, or any other Parts; and ſuch are commonly Aſthmatick and Dropſical: becauſe alſo in the Green-Sickneſs, as it is commonly called, Girls are of this Complexion, that is frequently ſignified by the ſame Term.

Leucorrhœa, λευκόῤῥοια; *Gonorrhœa muliebris*, or *Fluor albus*, is met with in ſome few Authors, for the Diſtemper moſt commonly known amongſt us by the Name of the *Whites*.

Levigation, from *lævis*, ſmooth, is reducing hard ponderous Bodies, ſuch as Coral, Tutty, and the precious Stones, into a light ſubtile Powder, by grinding upon a Marble-Stone with a Muller, as Painters do their Colours. This is much uſed in Pharmacy; but unleſs the grinding Inſtruments are extremely hard, they will ſo much wear away, as to double ſometimes the Weight of the Medicine ſo managed.

Levity is the Diminution or want of Weight in any Body when compared with another that is heavier; and in this Senſe it is oppoſed to Gravity. The Schools have maintained that there is no ſuch Thing as *poſitive* or *abſolute* Levity, confounding themſelves with the Subtlety of uſeleſs Diſtinctions: but to what has been before ſaid under *Gravity*, it may be further added here, that both Experience and the common Senſe of Mankind demonſtrate it to us, that Bodies tend towards the Earth, if not interrupted in ſtrait Lines, ſome ſlower, and ſome faſter, as alſo in all other Fluids as well as Air. Thus Gold is ſaid to be ſpecifically heavier than Cork, becauſe under equal Dimenſions the Gold will ſink in, and the Cork ſwim upon Water; and for the ſame Reaſon alſo is Gold heavier both than Cork and Water: The Reverſe of which is the Caſe of Levity, as *Archimedes* hath demonſtrated, *That a ſolid Body will float any where in a Fluid of the ſame ſpecifick Gravity, and a lighter Body will keep above a heavier.* The Reaſon of this is, becauſe of all Bodies falling towards the Earth, thoſe which have a like Number of equal Parts have equal Gravity, ſince the Gravity of the Whole is the Sum of the Gravity of all its Parts. Now any two Bodies have an equal Number of equal Parts, if under the ſame Dimenſions there are no Intervals deſtitute of Matter: whence it follows, that as no Portion of Matter is ſo ſmall, but that Body, in which it is contained, may be wholly divided into Parts equally as ſmall, there can be no Reaſon for the Deſcent of *theſe*, which is not the Reaſon for the Deſcent of that. From whence it may be concluded, that thoſe Bodies, which do not equally gravitate under the ſame Dimenſions, do not contain the ſame equal Portions of Matter; and therefore when we ſee that a Cube of Gold does ſubſide in Water at the ſame time that an equal Bulk of Cork ſwims upon it, the Gold muſt have a greater Number of equal Parts of Matter under the ſame Bulk than the Cork, or the Cork muſt have a greater Number of Vacuities, void of Matter, than the Gold; and that there are alſo in the Water a greater Number of Vacuities than in Gold. Hence we have a clear Idea both of Denſity, or Gravity, and of Levity; and know that the latter cannot in a ſtrict Senſe be accounted any thing poſitive, becauſe it is only a Negation or Abſence of Body, which makes that Body not ſo heavy as any other that contains more Matter; that is, in other Words, lighter.

Libido, ſtrictly ſignifies Venereal Deſire, but is us'd, by ſome Writers, to expreſs any ſtrong Inclination, as to forward the natural Excretions by Stool or Urine, or to ſcratch, in ſome cutaneous Diſtempers, which occaſion itching.

Lientery, from λεῖον, *læve*, ſmooth, ἔντερον, *Inteſtinum*, Gut, and ῥέω, *fluo*, to flow; is a particular Looſeneſs, or *Diarrhœa*, wherein the Food paſſes ſo ſuddenly thro' the Stomach and Guts, as to be thrown out by Stool with little or no Alteration. Its Cure is perform'd by the warm Aſtringents.

Ligament, from *ligo*, to bind; is a white and ſolid Body, ſofter than a Cartilage, (which ſee) but harder than a Membrane; they have no conſpicuous Cavities, neither have they any Senſe, leſt they ſhould ſuffer upon the Motion of the Joint. Their chief Uſe is to faſten the Bones, which are articulated together for Motion, leſt they ſhould be diſlocated with Exerciſe.

Ligamentum Annulare. See *Carpus.*

Ligamentum Ciliare. See *Ciliare Ligamentum.*

Ligamentum Latum, and

Ligamentum Rotundum. See *Generation-Parts of, proper to Women.*

Ligature, ſignifies any Thing that is tied about a Part of the Body, much in the ſame Senſe, as the Surgeons uſe Bandages.

Light. This is a Phænomenon that has employ'd the niceſt Enquiries of very great Philoſophers, ſo that there has been a great deal ſaid thereupon; but it ſufficeth for our Purpoſe to know, that it is really a Body, tho' in extremely ſmall Particles. Mr. *Romer* firſt demonſtrated, from Obſervations on the Eclipſes of the Satellites of *Jupiter*, that its Progreſs from the Sun to our Earth is not above ten Minutes. Since, therefore, the Earth is, at leaſt, 10000 of its own Diameters diſtant from the Sun, therefore, muſt the Light run 1000 of theſe Diameters in a Minute, which is above 100000 Miles in a Second. And, if a Bullet, moving with the ſame Celerity with which it leaves the Muzzle of a Cannon, require 25 Years to paſs from the Earth to the Sun, as *Huygens* has computed, then will the Velocity of Light, to that of a Cannon-ball, be as 25 Years to 10 Minutes, which is above 1000000 to 1. So that the Particles of Light move above a Million of Times ſwifter than a Cannon-bullet; from which great Rapidity of Motion very ſtrange Effects may be effected: For the *Momentum* of any Body, in Motion againſt another, is as a Rectangle under the Magnitude and Celerity of the moved Body; and this is ſurprizingly enough manifeſt in the common Effects of a Burning-glaſs, how great a Force they have, when collected, by ſuch a Contrivance, into a ſmall Compaſs of Action. Dr. *Hook* has demonſtrated, that the Power or Force of Light decreaſes, in a quadruplicate Ratio of the Diſtances reciprocally, or is the ſquared Squares of the Diſtances reciprocally taken; and conſequently, that the Effect of Light, or the Motion it cauſes in other Bodies, will be in a ſubduplicate Proportion of the Powers, and therefore, only in a duplicate Proportion of the Diſtances reciprocally taken. He has ſhewn alſo, that the Length of the Strokes of the Pulſes of Light are in a duplicate Proportion of their Diſtances reciprocally. Suppoſe then, that the Length of the Pulſe, from the Centre outwards at the Body of the Sun, ſhould be one Inch, the Length of the Pulſe of Light here with us would not be the 1000000th Part of the Thickneſs of an Hair; yet the Eye is ſo contriv'd, that the Strength of the Pulſe, which was deſtroy'd by ſo great a Diſtance, is reſtor'd again to a good Meaſure of its firſt Power: for, as in diverging Rays, the Length of the Pulſe decreaſes in a duplicate Ratio of the Diſtance, ſo in converging Rays, it increaſes in that Ratio, and in a contrary Order.

Hence we may pronounce, that Light is always proportionable to the Denſity of Rays that produce it; and that Denſity always is in all Places, or at all Diſtances from the Centre of Radiation, as the Squares of ſuch Diſtances reciprocally. From whence it is manifeſt how vainly they attempt, who pretend to increaſe Light uniformly, that is, equally throughout the whole Sphere of a luminous Body, or radiating Point. It is probable alſo, that Bodies and Light act mutually upon one another: Bodies upon Light, in emitting, reflecting, refracting, and inflecting it; and Light on Bodies, by heating them, and putting their Parts into a vibrating Motion, wherein Heat, in a great Meaſure, conſiſts: For, all fix'd Bodies, when heated beyond a certain Degree, do emit Light, and ſhine; and this Shining, and Emiſſion of Light, is probably caus'd by the vibrating Motion of the Parts; and all Bodies abounding with earthy Particles, and eſpecially, if they are ſulphurous, and their Parts ſufficiently agitated, do emit Light, whatſoever Way ſuch Agitation is brought about. Thus, Sea-water ſhines in a Storm; Quickſilver, when ſhaken *in Vacuo*; Cats, or Horſes, when rubb'd in the dark; and Wood, Fiſh, or Fleſh, when putrefy'd. For a further Account hereof, and its phyſical Effects on other Bodies, ſee Dr. *Hook*'s *Opera Poſthuma*, *Molyneux*'s Opticks, Reflections of *F. Malbranche*, in the *French* Memoirs of the Academy of Sciences, *A. D.* 1699. *Cheyne*'s Mathematical Principles of Natural Religion, Sir *Iſaac Newton*'s Opticks, *Hawksbee*'s Experiments before the Royal Society, and others.

Limomachia, and *Limoctonia*, are us'd by *Hippocrates*, and ſome others of the Antients, to expreſs the utmoſt Diſtreſs from Hunger; whence probably,

Limologia, or *Loimologia*, comes to be us'd for any Treatiſe of a Peſtilence, from λιμὸς, *Fames*, Hunger, becauſe ſuch Calamities have been often obſerv'd the Conſequences or Attendants of Famine.

Limb, by Mathematicians, is us'd to ſignify the outermoſt Border of any Thing; and from them transferr'd to the ſame Purpoſes in Phyſicks.

Linctus, the ſame as *Lambative*, probably from the ſame Derivation, or from *Lingua*, the Tongue, becauſe it is a Form of Medicine to be lick'd up with the Tongue. See *Eclegma*.

Linea alba, ſignifies a white Line, and is therefore given, by reaſon of its Colour, to that Line which reaches from the *Cartilago Enſiformis* to the *Os Pubis*, and is made by the Union of the Tendons of the oblique and tranſverſe Muſcles, dividing the *Abdomen* in two in the Middle. This receives a Twig of a Nerve from the Intercoſtals of each of its Digitations, or Indentings, which are viſible to the Eye, in lean Perſons eſpecially.

Lingua, the Tongue. This is cover'd with two Membranes; the external hath on its upper Part, and particularly, towards the Tip of the Tongue, a great Number of *Papillæ*, of a pyramidal Figure; they ſtand not up ſtrait, but incline towards the Baſis of the Tongue; they appear not ſo plainly in Men as in Brutes, in ſome of which laſt they grow cartilaginous. Each *Papilla* has a ſmall Root, which makes a ſmall Hole in the viſcous Subſtance, which lies between the two Membranes. In Men, the chief Uſe of theſe, called *Papillæ Pyramidales*, ſeems to be for preſerving the *Papillæ Nervoſæ*, which are of a ſofter Subſtance, that they be not hurt by the Hardneſs, or Roughneſs of the Aliment: And in Beaſts which feed upon Graſs, which they gather together with their Tongue, theſe *Papillæ* are like ſo many Hooks, for the graſping, cutting, and pulling of the Graſs; and perhaps, by their Roughneſs, and rubbing upon the Palate, they conduce to preſs the Spittle out of the Glands. Towards the Baſis of the Tongue are to be ſeen ſeveral ſmall Glands, like thoſe of the Cheeks. See *Mouth*.

Under the external Membrane there lies a thin viſcous Subſtance, which is white on that Side next the external Membrane, and black on that Side next the internal. When the Tongue is boil'd, this Subſtance hardens, and is like a Sieve, being full of ſmall Holes made by the Roots of the *Papillæ Pyramidales*. The internal Membrane is thin and ſoft; upon it there appear ſeveral *Papillæ* made of the Extremities of the Nerves of the Tongue, for which Reaſon they are call'd *Nervoſæ*. They are ſituated upon the Sides of the Tongue, but chiefly towards its Tip; they reſemble the ſmall Horns of a Snail, for, their Extremities are round, and bigger than the reſt of their Bodies. The Extremity of each *Papilla* pierces the external Membrane of the Tongue. They quit thoſe Holes, and remain on the internal Membrane, when the external is rais'd. Theſe *Papillæ* are the immediate Organ of Taſting.

The Subſtance of the Tongue is muſculous, being made of Plans of Fibres of different Directions. The firſt, or external Plan, is made of ſtrait Fibres which ſurround the Tongue, reaching from its Baſis to its Point. When they contract, they ſhorten the Tongue. Under them there are ſeveral Plans of Fibres, which run from one Edge of the Tongue to the other, and they draw its Edges together. There are alſo ſeveral Plans of Fibres, which run from the Under to the

Upper-ſide of the Tongue; when they contract, they make the Tongue broad and thin. Theſe two Sorts of Fibres lie *ſtratum ſuper ſtratum* from the Tip of the Tongue to its Baſis: firſt, a Plan of one Sort, and then a Plan of the other Sort. There is a ſmall Portion of Fat between theſe Fibres, but chiefly towards the Baſis of the Tongue.

The Veſſels of the Tongue are Veins from the Jugulars, call'd *Ranulares.* It has Arteries from the *Carotids,* and Nerves from the fifth and ninth Part.

The Muſcles of the Tongue are three Pair. The *Styloglоſſus* ariſes fleſhy from the *Proceſſus Styloides,* and thence deſcending, it is inſerted into the Root of the Tongue. Its Uſe is to draw the Tongue upwards. The ſecond Pair is the *Geniogloſſus*; it ariſes from the Inſides of the Fore-part of the lower Jaw, and is inſerted into the Root of the Tongue, which it ſerves to pull out of the Mouth. The third is the *Ceratogloſſus,* which ariſes broad and fleſhly from the Sides of the *Os Hyoides,* and is inſerted into the Root of the Tongue, which it pulls directly into the Mouth. The Fibres of this Muſcle, which are neareſt the Extremities of the *Os Hyoides,* were called the *Baſiogloſſus*; but there is no Reaſon to diſtinguiſh them, ſince they lie in the ſame Plan, and their Fibres have the ſame Direction, Origination, and Inſertion. The Tongue is not only mov'd by theſe Muſcles, but alſo by a Bone call'd *Os Hyoides,* which lies at the Root of the Tongue, and in Figure is like the *Greek* Letter *υ,* from whence, and εἶδος, *Forma,* Shape, it has its Name. It is compos'd ordinarily of three Bones; that in the Middle makes its Baſis, and is ſhorter than the other two: It is convex without, but concave within: The other two are join'd to its two Ends by two intervening Cartilages; they are much longer than the firſt: They have each a Cartilage at their Extremities, and are call'd *Cornua,* or Horns. The Baſis of this Bone is join'd to the Root of the Tongue, and its Horns are join'd to the upper Angles of the *Cartilago Thyroides,* and by two ſmall and round Ligaments to the *Proceſſus Styloides* of each Side. This Bone is mov'd, and with it the Tongue, by five Pair of Muſcles. The firſt is the *Geniohyoidæus,* ſo call'd from γένυς, *Mentum,* the Chin, and the reſt as the Word *Hyoides*: It ariſes fleſhy from the Fore-part of the lower Jaw internally, and is inſerted into the Baſis of the *Os Hyoides,* which, with the Tongue, it pulls upwards, and forwards. Its Antagoniſt is the *Sternohyoidæus,* which ariſes from the Inſide of the *Clavicle,* and aſcending above the *Sternothyroidæus* it is inſerted into the Baſe of the *Os Hyoides,* which it pulls downwards. The third is the *Mylohyoidæus,* and ariſes fleſhy from the Inſide of the lower Jaw, under the *Dentes Molares,* and is implanted into the Sides of the Baſe of the *Os Hyoides*: It draweth this Bone and the Tongue obliquely upwards. Its Antagoniſt is the *Coracohyoidæus,* which is wrong-nam'd, becauſe it ariſes not from the *Proceſſus Coracoides,* but from the upper Edge of the *Scapula* near its Neck; and aſcending obliquely under the *Maſtoidæus,* it is inſerted into the *Os Hyoides,* and pulls it obliquely downwards. The Belly of this Muſcle is a little tendinous in its Middle, that the Veſſels which go to the Head be not compreſſed, when it acteth. The fifth Pair is the *Stylohyoidæus*, and ariſes from the *Styloides Proceſſus*, whence deſcending, it is inſerted into the Horns of the *Os Hyoides*, which it draws to one Side, and a little upwards. The Belly of this Muſcle is perforated for the Paſſage of the Tendon in the Middle of the *Digaſtricus.*

Liniment, is a Form of external Medicine made of unctuous Subſtances, to rub upon any Part; as the Word itſelf imports.

Lipothymia, from λείπω, *deficio*, to want, and θυμὸς, *Animus*, Spirit, is a Fainting or Swooning, from too great a Decay or Waſte of Spirits.

Lippitudo, is a Diſorder of the Eyes, from a Decay or Obſtruction of their natural Moiſture, which makes them feel dry, and appear angry and red, commonly call'd Blear-Ey'd.

Liquamen, is any Thing capable of melting, and is generally us'd to expreſs ſuch unctuous Subſtances as are procur'd by

Liquation, or

Liquefaction, which ſignify the ſame, from *liquefacio*, to melt, or make into a Liquor. See *Fuſion*, which it is ſometimes alſo confounded with.

Liquid, or *Liquidity*, is ſuch a Property in Bodies, as is alſo expreſſed by Fluidity; but this, ſomewhat further than that, alſo ſuppoſes a Power of wetting, which all Fluids have not, and proceed from a peculiar Configuration of Particles, which diſpoſes them to adhere to the Surfaces of Bodies which are immers'd into them.

Litharge, is a Subſtance that ariſes in the Purification of Silver, altho', from its yellow Colour, it is commonly call'd Litharge of Gold. It is much us'd in Emplaſters; for it diſſolves by boiling in Oil, and gives a proper Conſiſtence, as in the *Diachylon.*

Lithiaſis, from λίθος, *Lapis*, a Stone; is the Gravel and Stone in the Bladder: And,

Lithotomy, from the ſame, and τέμνω, *ſeco*, to cut, is taking out the Stone by cutting; the Operator being call'd a

Lithotomiſt. Alſo,

Lithontripticks, from the ſame, and τρίβω, *tero*, to wear; are ſuch Medicines as, by their penetrating, or deterging Qualities, cut, diſſolve, or wear away ſuch Subſtances, when generated in the Body, ſo as to forward the Diſcharge of the Principles out of the containing Veſſels.

Litus, the ſame as *Linimentum*; which ſee.

Lixivium, is a Liquor made by the Infuſion of Aſhes, or any burnt Subſtances, which is more or leſs pungent and penetrating, as it is impregnated with the Salts and fiery Particles abounding therein. And what is left, after the Evaporation of ſuch a Liquor, is call'd a

Lixivial, or

Lixiviate Salt; ſuch as all thoſe are, which are made by Incineration.

Lobe, ſignifies any Body turn'd of a roundiſh Shape; whence Roots of Plants are thus call'd in Botany: And in Anatomy, divers Parts of the Body are thus diſtinguiſh'd; as the Lobes of the Ears, Lungs, Liver, and the like; which Parts ſee. *Bidloo* uſes the di-

diminutive *Lobellus*, or little Lobe, for the four Proceſſes of the Brain.

Loch, and *Lohock*, are *Arabian* Names for thoſe Forms of Medicines, which are now commonly call'd *Eclegma*'s, *Lambatives*, *Linctus*'s, or the like; which ſee.

Lochia, Loches, ſignifies ſuch Evacuations, as are peculiar to Women in Childbed. The neareſt Derivation of this Term, that bears any Affinity to the Senſe it is us'd in, is from λέχομαι, *cubo*, to lie down. See *Placenta*.

Loculamenta, ſtrictly ſignifies little Pockets; and thence the Term is made Uſe of in Botany, to expreſs thoſe little diſtinct Cells or Partitions within the common *Capſula Seminalis* of any Plant; as thoſe within the Seeds of Poppies, *&c.*

Lohoch. See *Loch*.

Longævity, ſignifies long Life, to procure which, Abſtinence and Regularity are ſuppos'd to be eighly conducive.

Longiſſimus Dorſi, is a Muſcle of the Back, that, at its Beginning, is not to be ſeparated from the *Sacrolumbalis*, ariſing with it from the hinder-part of the Spine of the *Ilium*, and upper Part of the *Os ſacrum*, and, as it aſcends, it gives Tendons to each tranſverſe Proceſs of the *Vertebræ* of the Loins, *Thorax*, and Neck. In Conjunction with ſome others, this helps to keep the Body erect.

Longitudinal, Length-ways, is oppos'd to Tranſverſe.

Longus Colli, is a Muſcle, that is faſten'd to the five upper *Vertebræ* of the Back, and to all thoſe of the Neck; but, becauſe the laſt are more moveable than the firſt, therefore, they are its Inſertion, and thoſe of the Back its Origination. This helps to bend the Neck.

Longus Cubitæus, is a Muſcle, that, in Conjunction with others, extends the *Cubitus*. It ariſes from the inferior *Coſta* of the *Scapula*, nigh its Neck, and paſſeth betwixt the two round Muſcles. It deſcends on the Back-ſide of the *Humerus*, where it joins with the *Brevis* and *Brachiæus externus*.

Lotion, is a Form of Medicine compounded of aqueous Liquids, us'd to waſh any Part with, from *lavo*, to waſh.

Lozenges, is a Form of Medicine, made into ſmall Pieces, to be held or chew'd in the Mouth, 'till melted or waſted.

Lubricity, is a Property chiefly of fluid Bodies, which makes them ſoft and yielding, as in Oils, and the like, from *Lubricitas*, Slipperineſs.

Lues, ſignifies a Plague, or Contagion; but, according to modern Uſe, eſpecially when join'd with *Gallica*, or *Venerea*, means only the Pox. There are various Opinions of this Diſeaſe, as to its Cauſes and Propagations chiefly, which have their Foundation in nothing but Conjecture. And many Caſes, that paſs for a Conſtitution-Pox, ſeparate from a *Gonorrhœa*, are not diſtinguiſhable from ſome Species of a Scurvy; and are very often neither from Infection, nor capable of communicating one: Such are to be managed, as the Scurvy, Leproſies, Struma's, and the like; and ſeldom require any Thing peculiar to venereal Diſorders. But, where it is remarkably, and certainly from venereal Foulneſſes, it is to be managed according to the Appearance of Symptoms, either by Evacuation, Detergents or Abſorbents, or all together.

Lumbago, from *Lumbi*, the Loins, and *ago*, to act; ſignifies Pains, that are very troubleſome about the Loins, and Small of the Back, ſuch as precede Ague-Fits, and Fevers. They are moſt commonly from Fulneſs and Acrimony, in common with a Diſpoſition to Yawnings, Shuddering, and erratick Pains in other Parts, and go off with Evacuation, generally by Sweat, and other critical Diſcharges of Fevers.

Lumbares Glandulæ. See *Lacteal Veins.* Some Arteries, Veins, *&c.* are alſo call'd *Lumbares*, while they are in their Paſſage thro' the Loins.

Lumbricales Muſculi, call'd alſo *Vermiculares*, for the ſame Reaſon; both theſe Terms ſignifying any Thing bearing Reſemblance to Worms, which the Muſcles thus call'd do, by their Smallneſs and Shape, ariſing from the Tendons of the *Profundus*, and are inſerted into the firſt *Internodes* of each Finger, on their internal Sides next the Thumb. They aſſiſt in bending the firſt Joints of the Fingers; for which Cauſe, they are ſometimes call'd *Flexores primi Internodii Digitorum.*

Luna, in the Language of the Chymiſts, ſignifies Silver, from the ſuppos'd Influence of that Planet (the Moon) thereupon. The medicinal Virtues of this Metal are none at all, until it has undergone very elaborate Preparations. See *Diſpenſatory.*

Lunata Cartilago. See *Tibia.*

Lunatick, ſignifies being mad, from *Luna*, the Moon; becauſe it has antiently been an eſtabliſh'd Opinion, that ſuch Perſons were much influenced by that Planet: And a much ſounder Philoſophy has taught us, that there is ſomething in it, but not in that particular Manner as the Antients imagin'd, or otherwiſe than what it has in common with other heavenly Bodies, occaſioning various Alterations in the Gravity of our Atmoſphere, and thereby affecting human Bodies.

Lungs. This is an Organ in the human Frame, of ſo great Moment to its due Preſervation, that the Structure, and Uſe thereof, cannot be too nicely enquir'd into. The Lungs are in the Middle of the Cavity of the *Thorax*, and are divided into two Lobes by the *Mediaſtinum*; the Left is alſo frequently ſubdivided by two more. The Figure of both Lobes together reſembles, in Shape, a Cow's Foot, being a little concave betwixt the two Lobes, where they embrace the Heart, and behind, where they lie upon the *Vertebræ*; but before, where they touch the *Sternum* and Ribs, they are convex. The Colour of the Lungs, in a *Fœtus*, is of a pale Red; but, after the Air has once enter'd them, they loſe their Red, and remain always pale; tho', in Adults, they are variegated both with the one and the other. They are ty'd to the *Sternum* by the *Mediaſtinum* before, to the *Vertebræ* by the *Pleura* behind, where it riſes from the *Vertebræ* to the Heart by the *Vena Arteria Pulmonalis*; and ſometimes to the *Pleura*, where it covers the Ribs, and particularly in the Left-Side, and eſpecially after a Pleuriſy.

The Lobes of the Lungs are cover'd with a double Membrane; the external, which is a Production of the *Pleura*; and the Internal, which not only immediately covers the Subſtance of the Lungs, but its inner *Lamina* alſo fills up the Interſtices which are between the Bunches of the ſmall Lobes, with little veſicular Cells. The fine capillary Blood-Veſſels are ſo thick upon this Membrane, that it ſeems to be nothing but a Net-work of Veins and Arteries. The Subſtance of the Lungs is compoſed of an infinite Number of little Lobes of various Figures and Magnitudes; but their Surfaces are ſo adapted to one another, as to leave but very few and ſmall Interſtices. Theſe Lobes are diſpos'd like ſo many Bunches of Grapes upon the Sides of the *Bronchi*; each little Lobe contains, within its own proper Membrane, an infinite Number of ſmall and little orbicular Veſicles, which leave ſmall Interſtices between them, that are full of little Membranes, like thoſe which tie the Lobes together. The Extremities of the Branches of the Wind-Pipe open into the Cavity of the Veſicles, which are properly formed by its Membranes; but the capillary Blood-Veſſels are only ſpread upon the Veſicles like a Net, with frequent and large Inoſculations.

The Veſſels which enter the Lungs are the *Trachea*, or *Aſpera Arteria*, by which we draw in the Air; the *Arteria Pulmonalis*, which comes from the right Ventricle; and *Vena Pulmonalis*, whoſe Trunk opens into the left Ventricle of the Heart: each of theſe divides into two Branches, for the two great Lobes of the Lungs, where they are ſub-divided into as many Branches as there are little Lobes or Veſicles in the Lungs. Whereever there is a Branch of the *Trachea*, there is alſo a Branch of the Vein and Artery; and the *Trachea* is always in the Middle. Upon the Branches of the *Trachea Arteria*, which are call'd *Bronchi*, runs a ſmall Artery, call'd *Arteria Bronchialis*, and a ſmall Vein call'd *Vena Pneumonica*. The Artery comes from the *Aorta*, and the Vein opens into the *Subclavian*. Upon the *Bronchi*, even to their minuteſt Ramifications, run likewiſe the fine Threads of the eighth Pair of Nerves. Beſides theſe, the Lungs have Lymphaticks, which diſcharge themſelves into the Thoracick Duct: but they are ſmaller, and make more frequent Inoſculations than are obſervable any where elſe. This is the Paſſage of the Veſſels thro' the Lungs; but, becauſe the *Trachea Arteria* has a particular Structure, it requires to be particularly explain'd. See *Aſpera Arteria*.

From the Structure of the Lungs thus explain'd, may be mechanically deduced the great Effect they produce upon the Blood by Means of the Air: For, whilſt the *Fœtus* is in the Womb, the Veſicles of the Lungs lying flat upon one another, compreſs all the capillary Blood-Veſſels, which are ſpread upon them: but, as ſoon as we are born, the Air, by the Dilatation of the *Thorax*, is thruſt into the Branches of the *Trachea Arteria*, and blows up the Veſicles into Spheres; by which Means, the Compreſſion being taken off from the Blood-Veſſels, and they equally expanded with the Lungs, all the Blood has a free Paſſage thro' the pulmonary Artery: but, when the Air is thruſt out again by the Contraction of the Cavity of the *Thorax*, it being a fluid Body, compreſſes the Veſicles and Blood-Veſſels upon them every-where equally. By this Compreſſion the red Globules of the Blood, which, thro' their languid Motion in the Veins, were grown too big to circulate in the fine capillary Veſſels, are broken and divided again in the *Serum*, and the Blood made fit for Nouriſhment and Secretion. This Preſſure of the Air upon the Blood-Veſſels, may be demonſtrated to be equal to 100 ℔ Weight, and in Coughing or Crying it may exceed 400 ℔ Weight.

But, tho' theſe are neceſſary Conſequences of Reſpiration, yet ſeveral Experiments tend to demonſtrate, that ſome Particles of the Air muſt likewiſe enter the Blood-Veſſels, and mix with the Blood in the Lungs: For, we are aſſur'd, that the Air will eſcape the Pores of any Number of Bladders, when compreſſed only by the Weight of the Water, into which it is ſunk; and therefore, the Preſſure of 100 ℔ Weight, in ordinary Reſpiration, cannot but thruſt ſome Particles of it into the Blood-Veſſels. It is further ſhewn by the Air-Pump, that Animals cannot live, when ſhut up in common Air, tho' it retains its wonted Preſſure. The ſame Method alſo aſſures us, that Animals will live longer, when ſhut up in compreſſed Air; and that, when they are dying in common Air, they may be reviv'd, by preſſing in more freſh Air. It may likewiſe be demonſtrated, that the Difference between the Gravity of the Air in the City, and that of the Country, which the Barometer ſhews to be very ſmall, can never be the Cauſe of that Difficulty of Breathing, which ſome experience in the one, and not in the other; for they are not near ſo ſenſible of the different Gravities of the Air in the ſame Place, as they are of a much ſmaller Difference in two diſtinct and remote Places, where the Contents of the Air are different.

But the main Purpoſe of Reſpiration, and the chief Office of the Lungs being to form thoſe elaſtick Bodies, of which the Blood does principally conſiſt, and which are ſo neceſſary to its Circulation; it deſerves further to be conſider'd, that the Blood conſiſts of a Lymph, which is the common Vehicle, ſeveral Salts, *Ramenta* of a thick Conſiſtence, and thoſe Globules, of which we are now ſpeaking; tho' ſometimes they are of different Colours, as white, blue, and purple, which any one may diſcover with an ordinary Microſcope. Now, it is certain, that theſe Globules may burſt, as in Obſtructions, or be very much exhauſted, as in violent Hemorrhages, and yet be recover'd, and recruited again, ſo that they muſt be form'd ſomewhere or other from the Chyle. And ſince it is certain, that they are not ſolid Particles, as appears both by ocular Inſpection, and other Means; alſo, that they actually do change their globular Figures into thoſe of oblong Sphæroids, as they move thro' the capillary Veſſels; from all theſe together, conſider'd with their Coagulation with Acids, it is highly probable, that they may be little Bubbles, blown up from the viſcid Parts of the Chyle, by the Force of ſome ſubtile elaſtick Air. Now, no Place in the Body can afford this elaſtick Fluid but the Lungs; and this may be the Reaſon why the Chyle enters into thoſe two Veins only, which are juſt returning into the Heart, immediately to be ſent into the Lungs. For ſince in our groſs Element of Air, there is always interſpers'd a finer elaſtick Fluid, which is the principal Agent in all the ſurprizing Effects commonly aſcrib'd to the other; tho' the groſſer Element cannot, yet this finer Fluid, by the fore-mention'd Force in Reſpiration, may be thruſt thro' the Sides of theſe *Veſiculæ* into the Blood-Veſſels. And ſince theſe Blood-Globules muſt neceſſarily be generated ſomewhere, and that there is no Place in the Body beſides, thro' which this ſubtile Fluid can be ſqueez'd, with a Force ſufficient to carry it into the Blood but in the Lungs, it is highly probable, that theſe Globules are there form'd after the fore-mention'd Manner. The viſcous Part of the Chyle being, by the ſhorteſt and ſafeſt Courſe poſſible, brought into the returning Part of the Blood, is ſent from the right Ventricle of the Heart to the Lungs, and is ſpread upon the Sides of the *Veſiculæ* thereof in little fine Tubes. This fine Fluid then in the Act of Reſpiration, being ſqueez'd thro' the Veſicles of the Lungs, and the Sides of the Blood-Veſſels, is forced into the viſcous Part of the Chyle now running by in the *Serum*; and by its perpendicular Preſſure on the Sides of that Cavity it forms, produces a little ſmall Bubble of a determinate Magnitude, and Thickneſs of Shell, from whence it has its Colour. After this, by the Force of the ſucceeding Fluid, this little Bubble is broken off from the Pore, and carry'd along the Artery; and the Coheſion of the Parts of the Shell of this Bubble being greater than the Force from without, whereby the thin *Serum* acts upon it, it is preſerv'd in its Figure thro' all the various Motions of the compound Fluid of the Blood. And, if it happen that theſe Bubbles ſhould be burſt, (as they moſt certainly are by manifold Cauſes) whenever they come to the Lungs, they are new form'd again, whereby the Texture of the Blood, and the Circulation thereof, is preſerv'd conſtant and uniform: For, ſhould theſe Bubbles be all deſtroy'd, there muſt of Neceſſity ariſe a general Obſtruction in all the capillary Arteries. A Mixture of Oil and Vinegar admirably exhibits the like Formation of Bubbles; for, when it is look'd upon thro' a Microſcope, it appears to be nothing elſe but an Infinity of ſuch Globules form'd by the Immiſſion of Air and Vinegar into little Shells of Oil. See *Blood.*

Lupia, is a ſmall, ſoft, round Tumor, ſeated in a tendinous Part of the Joints of the Fingers or Toes, moveable every Way, but unattended with Pain; being of much the ſame Nature with a Ganglion.

Lupus, ſtrictly ſignifies the Wolf, or Wild-Dog; but ſome Perſons have figuratively apply'd it to a grievous eating Ulcer, like the *Phagedæna.*

Lute, is a Mixture of ſeveral adheſive Subſtances together, to cloſe the Junctures of Veſſels in Diſtillation, from *Lutum*, Dirt: Such Compoſitions being on any other Account of a mean Value, and not much unlike to Dirt, in Appearance.

Luxation, is a ſlipping of any Thing out of its Place; and is us'd to ſignify the disjointing the Bones in any Parts whatſoever; which is done various Ways, and they are to be reduc'd by as many, according to the particular Formation and Articulation of the Joint: for which ſee the Books of Practical Surgery.

Lymph, or *Lympha*, is generally us'd for ſuch a tranſparent Fluid as Water: and therefore, in Anatomy, is us'd for the Contents of the Veſſels call'd

Lymphaducts, from *Lympha*, Water, and *duco*, to convey, or

Lymphaticks, which are ſlender pellucid Tubes, whoſe Cavities are contracted at ſmall and unequal Diſtances, by two oppoſite ſemi-lunar Valves, which permit a thin and tranſparent Liquor to paſs through them towards the Heart, but which ſhut like Floodgates upon its returning. They ariſe in all Parts of the Body; but after what Manner needs no great Diſpute: For, without doubt, all the Liquors in the Body, excepting the Chyle, are ſeparated from the Blood in the fine capillary Veſſels, by a different Pipe, from the common Channel in which the reſt of the Blood moves: but, whether this Pipe be long or ſhort, whether it be viſible or inviſible, it is ſtill a Gland, whilſt it ſuffers ſome Part of the Blood to paſs thro' it, denying Paſſage to others. Now, the Glands, which ſeparate the Lymph, muſt be of the ſmalleſt Kinds, for, they are inviſible to the fineſt Microſcope; but their excretory Ducts, the lymphatick Veſſels, unite with one another, and grow larger as they approach the Heart; yet they do not open into one common Channel, as the Veins do: For, ſometimes we find two, or three, or more Lymphaticks, running by one another, which only communicate by ſhort intermediate Ducts, and which unite, and immediately divide again. In their Progreſs they always touch at one, or two conglobate, or veſicular Glands, into which they diſcharge themſelves of their Lympha. Sometimes the whole Lymphatick opens at ſeveral Places into the Gland, and ſometimes it ſends in only two or three Branches, whilſt the main Trunk paſſes over, and joins the Lymphaticks, which ariſe from the oppoſite Sides of the Glands, exporting again their Lympha to their common Receptacles. Now, the Glands of the *Abdomen*, which receive the Lymphaticks from all the Parts it contains, as likewiſe from the lower Extremities, are the *Glandulæ Inguinales, Sacræ, Iliacæ, Lumbares, Meſentericæ*, and *Hepaticæ*; all which ſend out new Lymphaticks, which pour their Contents into the *Receptaculum Chyli*, as thoſe of the Cheſt, Head, and Arms, do into the *Ductus Thoracicus*, jugular and Subclavian Veins. Theſe Glands are round and ſmooth Bodies, about the Bigneſs of an Hazle-Nut, bigger, or leſſer, according to the Number of Lymphaticks they receive. Their Subſtance is membranous, which divides the whole Bulk into little Cells, which receive the Lymph from the Lymphaticks; and therefore, they are improperly call'd Glands, becauſe they ſeparate no Liquor from the Blood.

It's true, that their exporting Lymphaticks, communicating with their Arteries, do receive a Lymph from them; but this is done without the Help of conglobate Glands, as the lacteal Veins do with the capillary Arteries of the Guts: and the chief Uſe of theſe veſicular Bodies ſeems to be, that the ſlow moving Lympha may receive a greater Velocity from the elaſtick Contraction of their membranous Cells, as well as from the new Lymph immediately derived from the Arteries. If the Lymph be chymically examined, it will be found to contain a great deal of Volatile, but no fixed Salt, ſome Phlegm, ſome Sulphur, and a little Earth.

The Uſe of the Lymph may be gathered from the Conſideration of the Parts into which it diſcharges itſelf. That which comes from the Head, Neck, and Arms, is thrown into the jugular and ſubclavian Veins. All the Lymphaticks, which the Parts in the Cavity of the *Thorax* ſend out, empty themſelves into the thoracick Duct, and the Lympha from all the reſt of the Body flows to the common Receptacle; ſo that there can be no Doubt, but that its chief Uſe is to dilute and perfect the Chyle before it mixes with the Blood. Now the whole Lymph, which is ſeparated from the Blood, being requiſite for this Uſe, it is plain, that there could be no Glands in the *Abdomen* appropriated for the Separation of the whole Lymph, but what muſt have had a very great Share of the Blood, which paſſes thro the *Aorta,* in order to ſeparate ſo great a Quantity of Lymph. But the Liver and Kidnies requiring likewiſe a great Quantity of Blood, and which could not be avoided, Nature choſe to ſeparate the Lymph from the Blood which goes to all the Parts of the Body, rather than appoint particular Glands for it in the *Abdomen,* which would have been more at hand, but would have robbed the other Parts of a large Quantity of Blood, and occaſioned a very unequal Diſtribution of it.

Lynceus, from *Lynx,* a Creature of a quick Sight; is uſed by ſome for a Collyrium to ſtrengthen the Eyes: and hence, alſo a Perſon is ſaid to be *Lynceus,* or Lynx-eyed, who hath a quick, ſtrong Sight.

Lypiria, or *Leipiria,* is us'd by ſome, for that Kind of burning Fever, which is more commonly called a *Cauſus.*

Lyſſa λύσσα, or λύττα, ſtrictly ſignifies the Madneſs of a Dog, which is communicable by his Bite, but is more laxly applied to the Bite of any venomous Creatures; whence the *Pulvis Antilyſſus* in the *London Diſpenſatory* takes its Name, as being accounted good againſt ſuch Evils.

M.

M. This Letter in Preſcription is frequently uſed to ſignify an Handful, and is ſometimes alſo put at the End of a *Recipe* for *Miſce*, Mingle, or *Mixtura*, a Mixture.

Thus *m. f. Julapium*, ſignifies Mix, and make a Julep.

Maceration, is an Infuſion either with, or without Heat, wherein the Ingredients are intended to be almoſt wholly diſſolv'd.

Machaon, is the proper Name of an antient Phyſician, ſaid to be one of the Sons of *Æſculapius*; whence ſome Authors have fancy'd to dignify their own Inventions with his Name, as particularly, a *Collyrium* deſcrib'd by *Scribonius*, intitled *Aſclepias Machaonis*: And hence alſo, Medicine in general is by ſome call'd *Ars Machaonia*.

Machine, from *Machina*, an Engine, is apply'd frequently to ſuch Contrivances, with which Surgeons aſſiſt their Operations, chiefly in reducing diſlocated Bones. It is a Term in Mechanicks, where it is divided into *Simple* and *Compound*; the firſt is the Balance, Leaver, *&c.* and the latter is made of the former, in an infinite Variety: hence alſo.

Machinulæ, a Diminutive of the ſame Word, is ſometimes uſed by phyſical Writers to expreſs thoſe little Compoſitions, which are Parts of more compound Bodies, and which by their peculiar Configuration, are deſtined to particular Offices. Thus in Anatomy, the various Textures, Combinations, and Decuſſations of the Fibres compounding the Muſcles, Nerves, or Membranes, often are expreſſed by this Term.

Macrocephalus, from μακρὴ, *magna*, great, and κεφαλὴ, *Caput*, the Head; is ſometimes uſed to ſignify a Head larger than natural.

Macrocoſm, from the ſame as the firſt Part of the foregoing, κόσμος, *Mundus*, the World; expreſſes the whole World, or viſible Syſtem.

Macula, is applied by Phyſicians, to expreſs any Spots upon the Skin, whether thoſe in Fevers, or ſcorbutick Habits; ſome alſo uſe it for thoſe Marks, which breeding Women are apt to impreſs upon a Child by Longing.

Madefaction, is properly receiving ſo much Moiſture, that a Body is quite ſoaked through by it; whence *Madida* is ſaid by ſome of any thing made tender by Infuſion or Decoction.

Madneſs. See *Mania*.

Magia, μαγία, Magick, antiently expreſſed only an uncommon Extent of Knowledge in natural Things; as the Diſtinctions of *Magician*, *Brachman*, *Druid*, and *Prophet*, were aſcribed, by different Nations in the ſame Senſe, to Perſons ſuppoſed to excel in it; but Chymiſtry and

Enthuſiaſm have latterly much corrupted this Term, by calling in the Aſſiſtance of ſome ſupernatural Power, and commonly that of an evil Spirit, for the obtaining ſuch Acquirements; and chiefly *Paracelſus, Crollius,* and *Helmont,* have treated it in this Manner, alledging much to be done in Medicine by Magick, or Inchantment: and hence ariſe likewiſe our modern Legends of Witchcrafts, and Exorciſms, which, it is to be feared, have not a little been encouraged by Prieſtcraft.

Magiſtery, is a Term made uſe of by Chymiſts, to ſignify ſometimes a very fine Powder, made by Solution and Precipitation; as of Biſmuth, Lead, *&c.* and ſometimes Reſins, and reſinous Subſtances, as thoſe of Jalap, Scammony, *&c.* but the moſt genuine Acceptation is to expreſs that Preparation of any Body, wherein the Whole, or moſt Part, is, by the Addition of ſomewhat, changed into a Body of quite another Kind; as when Iron or Copper is turned into Cryſtals of *Mars* or *Venus, &c.* But this Term is pretty much expunged, with the reſt of the chymical Jargon: tho'

Magiſterial Remedy, is ſometimes retained in the Cant of Empiricks, more for its great Sound than any Significancy.

Magma, expreſſes the Dregs or *Reſiduum* after Infuſion or Diſtillation.

Magna Arteria, the great Artery, the ſame as *Aorta,* which ſee.

Magnet, is a Load-ſtone, the wonderful Properties of which have greatly puzzled and employ'd the Enquiries of many great Men; but their Opinions thereupon are of no great Uſe in Medicine.

Magnetiſm, and

Magnetical Vertues, are much uſed by ſome who find their Account more in Amuſement than uſeful Knowledge: and ſome affect to explain or recommend, by ſuch Terms, thoſe Remedies, for the Application and Operation of which, they have no better Reaſons at hand.

Malacia, is a depraved Appetite, when ſuch things are coveted as are not proper for Food: but the Etymology of the Term ſeems doubtful, unleſs it be from *μαλάσσω, mollio,* to ſoften, becauſe, too lax a Tone of the Stomach is generally the Occaſion of Indigeſtion, and unuſual Cravings.

Malanders, is the Name of a Diſtemper peculiar to Horſes.

Malax, and *Malaxation,* is moiſtening or ſoftening any hard Body, from *μαλάσσω, mollio,* to ſoften.

Malicorium, Mali Granati Corium, is the Pomegranate Peel.

Malignant, from *Malignus,* ſignifying ſuch a Diſeaſe as is greatly aggravated, and is generally apply'd to ſuch Fevers as are Epidemical or Infectious, and are attended with Spots and Eruptions of various Kinds. See *Poiſon.*

Malleable, from *Malleus,* a Hammer, ſignifies any thing that is capable of being ſpread by beating; and is a Quality poſſeſs'd in the moſt eminent Degree by Gold, that being more ductile than any other Metal; and is oppoſite to Friability or Brittleneſs. It depends upon a particular Configuration of Parts, and in many Inſtances, is not unlike what is deſcribed under Fibre, which ſee.

Malleus, ſignifies a Hammer or Mallet, and is apply'd to one of the Bones of the Ear, for its Reſemblance thereunto.

Malleolus; the lower Proceſſes of the *Tibia* and *Fibula* are both thus called, which together make the Ankle.

Mammæ. See *Breaſts.*

Mammiformis Proceſſus, the Breaſtlike Proceſs. Two *Apophyſes* of the Bones, in the back Part of the Skull, are thus called. See *Maſtoides.*

Mandibula, the Jaw. See *Maxilla.* Hence.

Mandibulares Muſculi, and

Mandihoca, a poiſonous Root, which, when artifically prepared by the *Braſilians*, affords them both their Bread and Drink.

Manducation, ſignifies the Action of the lower Jaw, in chewing the Food, and preparing it in the Mouth, before it is receiv'd into the Stomach.

Manducatorii Muſculi, are the ſame as the *Maſſeters*, which ſee.

Mania, Madneſs: This is a Delirium without a Fever; whence it is neceſſary alſo to explain what a Delirium is. To which Purpoſe it is, therefore, proper to obſerve, that as often as the Species of Things, wherewith we have been acquainted, are hurried together, we may be ſaid to dream; and thence in Sleep they are added with other Things, and variouſly confounded, from the manifold Repercuſſions of the animal Spirits, which ariſe from the Cauſe producing Sleep, and preſſing the Nerves ſo as to revert the Fluctuations of their Juice. A Delirium is therefore the Dreams of waking Perſons, wherein Ideas are excited without Order or Coherence, and the animal Spirits are drove into irregular Fluctuations. If therefore the Cauſe, inducing a Delirium, be of that Nature, that it can excite Ideas or Motions of a conſiderable *Impetus*, without any Manner of Certainty or Order; ſuch a Delirium will be attended with Boldneſs and Rage, and violent Motions of the Body; that is, a Madneſs will be produced. Now it is plain, that all the known Cauſes of this Diſtemper give a greater Diſpoſition to the Blood for Motion, and render it fluxile, but not conſiſtent and uniformly thick enough; and therfore, that they diſpoſe Perſons likewiſe to continued Fevers; ſince they occaſion the Blood to be thrown out of the Heart, with an increaſed Force, unleſs ſome other Cauſe intervenes, whereby the Efficacies of theſe are interrupted in diſpoſing the Blood into febrile Motions; and the Blood is ſo diſpoſed, as often as it can be rareſy'd into its minuteſt Parts; that is, ſo uniformly rareſy'd, that it can eaſily with any Force, by the Motion received from the Heart, go into Parts diviſible at the Occurſions of thoſe Orifices, into which it ought to be diſtributed: for then the Coheſion of the Parts, which can be but very ſmall, will not be any Obſtruction to the Increaſe and Propagation of the Blood's Velocity. But if it happens, that the efficient Cauſe, or the Heart, throws the Blood with a greater Force, or that the Blood can the more eaſily be propelled in any given Time; it will occaſion at the ſame Time that ſome Parts of the Blood be more nearly united, ſo as to form *Moleculæ*, conſiſting of cohering

Particles; which *Moleculæ* will cohere to one another, and not ſo eaſily obey the Direction of the Heart's propelling Force. The Blood hereupon cannot be uniformly rarefy'd, nor enter ſo eaſily into the ſmall Orifices of the Veſſels, and ſo ſoon travel thro them; and therefore there will no Fever ariſe, but a Delirium without a Fever, wherein the Heat of the Blood will be greater, and the Preſſure in the Brain uncertain: whence uncertain Recurſions of the Spirits, inordinate Undulations, confuſed Vibrations of the Nerves, and a remarkable Energy of Imagination; whence will proceed Audacity and Paſſion beyond meaſure. The Cure of this is in refrigerating Diet, Evacuation, and eſpecially by ſtrong Emeticks and Cathartícks.

Manica Hippocratis, *Hippocrates*'s Sleeve, which ſee.

Manipulus, a Handful; is a Quantity often uſed in Preſcription amongſt Phyſicians, and is generally marked thus, M.

Manſorii Muſculi, from *mando*, to eat, the ſame as *Maſſeters*, which ſee.

Manus Chriſti, the Hand of Chriſt: ſome fanciful Perſons have given this Name to Pearl-Sugar, from their Over-fondneſs for it as a Cordial.

Maraſmodes, from *Maraſmus*, a Conſumption, and εἶδος, *Forma*, Shape; is uſed by ſome, for ſuch Fevers as leave the Body greatly waſted.

Maraſmus, from μαραίνω, *marceſco*, to grow lean; is for that Reaſon uſed for a Conſumption, where Perſons waſte much of their Subſtance.

Marcaſite, ſome have uſed this Term only for *Biſmuth*; but it is latterly made to ſignify in general all thoſe Minerals, which have ſome metalline Particles, in how little Quantities ſoever, in their Compoſition.

Marmalade, is the Pulp of Quinces, boil'd into a Conſiſtence with Sugar. It is ſub-aſtringent, and grateful to the Stomach.

Marrow. All the Bones of the Body, which have any conſiderable Thickneſs, have either a large Cavity, or they are ſpongious, and full of little Cells. In both the one and the other there is an oleaginous Subſtance, call'd Marrow, contain'd in proper Veſicles or Membranes, like the Fat. In the larger Bones, this fine Oil, by the gentle Heat of the Body, is exhal'd thro' the Pores of its ſmall Bladders, and enters ſome narrow Paſſages, which lead to ſome fine Canals excavated in the Subſtance of the Bone, according to its Length, and from theſe other croſs Paſſages (not directly oppoſite to the former, leſt they ſhould weaken the Bone too much in one Place) carry the Marrow ſtill further into more longitudinal Canals placed nearer the Surface of the Bone. All this Contrivance is, that the Marrow may ſupple the Fibres of the Bones, and render them leſs apt to break. This Term, and *Medulla*, the *Latin* for it, are frequently us'd in a figurative Senſe, to ſignify the Internals, or Principle of any Thing; as, the Marrow, by the Antients, was judg'd a main Principle of Life.

Mars, denoted by this Character ♂, amongſt the Chymiſts, ſignifies Iron, becauſe imagin'd under the Influence of that Planet. Naturaliſts abundantly inform us concerning the Production of this Metal; and phyſical Writers ſufficiently prove how much it is preferable, for all medicinal Purpoſes, to Steel, which is only a more harden'd compact Iron, made ſo by Art; whereby it is render'd more unfit to yield thoſe Principles, or Parts, in Preparation, which the Phyſician requires to be drawn out. And becauſe this has ſo great a Share in Medicine, it is worth explaining by what manifeſt Properties this Metal comes to afford ſo much of Moment for ſuch Uſes. And to this Purpoſe, thus far in common may be concluded, as from all other metalline Particles, That ſuch as can be mix'd with the Blood, and made Part of the circulating Fluid, muſt, of courſe, by the neceſſary Laws of Motion, from their ſuperior Gravities, be of great Force to break their Way, where Particles of leſs Gravities cannot get through: For, Mechanicks teach nothing more plainly, than that *The* Momenta *of all Percuſſions are as the Rectangles under the Gravities and Celerities of the moving Bodies.* The more Gravity, then, a metalline Particle has beyond any other Particles in the Blood, if their Celerities are equal, ſo much the greater will the Stroke of the metalline Particle be againſt every Thing that ſtands in its Way, than of any other not ſo heavy; and therefore, will any Obſtructions in the Glands and Capillaries be ſooner remov'd by ſuch Particles, than by thoſe which are lighter. This is a Way of reaſoning, that is plain to the meaneſt Capacity: and, altho' it may be call'd Mathematical, a Name ſhocking to ſome in Phyſick; yet it has no Conjuration in it, unleſs to force Aſſent by Demonſtration. But, if Steel, or Iron, has this Property, by Vertue of the Solidity, and ſpecifick Weight of its Particles, in common with ſome other Metals; it has alſo ſomewhat further of an Advantage of being a powerful De-obſtruent, from the Shape of its component Parts: For, both our Sight and Taſte convince us of their pointed angular Figure, eſpecially, if we view them in their Shoots into Cryſtals, in making the Vitriol, or Salt of Iron. For another Reaſon therefore, that is, the ſharp and pointed Figures of the Particles of Iron, will they be efficacious to cut their Way through many Hindrances: So that, upon a double Account, we ſee how this Metal deſerv'd its Eſteem of being a noble De-obſtruent. What has been obſerv'd likewiſe concerning Fermentation, or inteſtine Motion being increas'd by Particles elaſtick, does alſo plainly account how this Medicine comes to heat the Blood: For, the Reſilition of an elaſtick Particle, upon its Occurſion againſt any Thing that ſtops it, contributes to increaſe another Kind of Motion in a circulating Fluid, than that which is parallel to the Axis of the Veſſel thro' which it is propell'd; and it is this mix'd Motion, upon which the Heat and Fluidity of the Blood depends. So that the chalybeate Particles being alſo elaſtick, they do heat, and thin the Blood, by promoting its inteſtine Motion, as well as help it thro' Paſſages, by increaſing its Weight and Force againſt them.

There is another obvious Property of Iron, and many of its Preparations, which we have never yet had tolerably accounted for; and that is, its Aſtringence in the Bowels, and its promoting of Urine: Which may, to ſome, at firſt Sight, ſeem to be different Effects from the ſame Cauſe. But this will not appear ſtrange, when we conſider its ſtyptick corrugating Taſte upon the Tongue, which cannot but ariſe from the Points and Angles of its Particles. When, therefore, it comes into the Bowels, as often as thoſe Particles touch any of the Fibres of their inner Coat, thoſe Fibres, by the ſame Mechaniſm, will contract; and ſo, by the Paſſage of a Chalybeate thro' the Inteſtines, will they be gently drawn into ſuch Corrugations, as to retain their Contents longer, by the Paſſages being render'd ſtraiter. And, that theſe Medicines have this Effect in the Bowels, by this Means, is further evident, from the Twitches they give the Stomach ſometimes at their firſt Admiſſion, inſomuch as to draw it frequently into a general Contraction, and occaſion their Ejectment, by Vomit.

Upon another Account alſo does Iron aſtringe in thoſe Parts, and that is, by hardening the *Fæces* themſelves, whereby they are longer retain'd. In the crude Contents of the Bowels there are many Particles groſs and large in their Surfaces, which may be the fibrous Part of Food not digeſted enough to go off any other Way but by Stool. Now, theſe Filaments, or little Shreds of Fibres, though in themſelves inanimate, are capable in themſelves of Contraction, or rather Corrugation, upon the Contact and Impulſe of a ſharp-pointed Particle; as we ſee in Leather, Vellum, or any membranous Subſtances, how they will ſhrink up, at the Contact of Particles of Fire, or any ſubtile Acid. So that, beſides hardening the Coats of the Inteſtines, the Particles of a chalybeate Medicine aſtringe; that is, occaſion more conſiſtent, and leſs frequent Stools, by hardening the Contents of the Bowels, and rendering them more ſlow of Expulſion. But the Caſe is very different, when theſe Particles are ſtrain'd into a Fluid as fine as themſelves, and are propell'd in Canals with a great Velocity. The ſmart and frequently repeated Vibrations of an Artery prevent any ſuch Contact as was admitted of in the Bowels, and only ſerves to forward their Motions; ſo that they can do nothing here but go on with the Current, until their Force ſtrikes them thro' ſome ſecretory Outlet: but, by their Rapidity, and more forcible Reſilitions upon all Occurſions, they cannot, in this Scene, but greatly contribute to thin the Fluid, of which they make a Part; and diſpoſe it more to ſupply the thinner Secretions, of which that by Urine is chief: As alſo does the Gravity of their Parts, ſo far as the circulating Force will admit its Influence, more diſpoſe them to go off that Way, as it does moſt of a ſaline Nature, and ſuch as are a-kin thereunto.

After this, there can need but little to explain, how chalybeate Medicines anſwer ſo effectually that known Intention of promoting the menſtrual Diſcharges: For, by heating the Blood, that is, rendering it more ſwift and fluid, the Blood muſt take up more Room, and preſs harder againſt the Sides of the Veſſels; and, by increaſing its Quantity of Impulſe, it alſo preſſes, or ſtrikes harder againſt whatſoever oppoſes it, inſomuch as ſometimes to break the Veſſels themſelves. And theſe Effects it is moſt likely to have, of breaking the Veſſels, where their Contortions or Obliquities are greateſt, in Proportion to their Capacities, and Diſtances from the Heart. Whereſoever therefore, the Veſſels turn off neareſt to right Angles, and their Capacities are greateſt, at ſuch a Place the Blood is moſt likely to break through: And ſuch is the Contexture of the uterine Blood-Veſſels.

Marſupialis Muſculus, the ſame as *Obturator Internus*; which ſee.

Martial, is ſometimes us'd to expreſs Preparations of Iron, or ſuch as are impregnated therewith; as the *Martial Regulus* of Antimony, *&c.*

Maſſa, ſignifies Paſte, and is, therefore, apply'd generally to the Compoſitions out of which Pills are to be form'd. It is likewiſe, in a figurative Senſe, apply'd to ſome Collections of Fluids, and particularly, that of the Blood; for which it is frequently us'd.

Maſſeter, from μασσάωμαι, *manduco*, to chew; becauſe it is a Muſcle that helps to pull the Jaw upwards in eating. It is thick and ſhort, ariſing from the *Zygoma*, and from the firſt Bone of the upper Jaw, and is inſerted into the lower Edge of the lower Jaw, from its external Angle to its Middle. Its Fibres run in three Directions; thoſe from the *Zygoma* obliquely to the Middle of the Jaw; and thoſe from the firſt Bone of the upper Jaw croſs the former, and run to the Angle of the lower Jaw; and the Fibres, that are in its Middle, run in a Perpendicular from their Origin to their Inſertion.

Maſtication, or *Chewing*, is the Action whereby the Aliment is broke and divided into ſmall Pieces by the Teeth, and mixed with the Spittle or *Saliva*, in order to its being more eaſily digeſted in the Stomach. And,

Maſticatories, are ſuch Medicines as are intended for chewing, in order to evacuate more than ordinary by the ſalival Glands.

Maſtoides from μαστὸς, *Mamma*, a Breaſt, or Dug, or Nipple, and εἶδος, *Forma*, Shape, are Proceſſes ſo called from their Figure; and alſo for the ſame Reaſon *Mammillares*, or *Mammiformes*.

Mater tenuis, ſo called from its Thinneſs. See *Pia Mater*.

Materialiſta, ſignifies a Druggiſt, or any Perſon dealing in Drugs; but is a Term not much uſed by late Writers.

Matraſs, is the Name of a chymical Glaſs-Veſſel, made for Digeſtion, or Diſtillation, being ſomewhat bellied, and riſing gradually taper into a conical Figure.

Matrix, ſtrictly ſignifies the Womb of a Female; See *Generation Parts of, proper to Women*: But ſome chymical Philoſophers thence figuratively apply it to any Thing which gives Nouriſhment and Encreaſe to any Bodies; ſo the Earth is a *Matrix* to the Seeds ſowed in it, *&c.*

Matter, or *Body*, is an impenetrable, diviſible, and paſſive Subſtance, extended in Length, Breadth, and Thickneſs. This, when conſider'd in general, remains the ſame in all various Motions, Configurations, and Changes of natural Bodies, being capable of putting on all Manner of Forms, and moving according to all Manner of Directions and Degrees of Velocity. The Quantity of Matter in any Body, is its Meaſure, as to its abſolute Weight.

Matter ſubtile. This is a Figment of the *Carteſians*, to avoid the Inconveniences which they thought themſelves incumber'd with, in allowing a *Vacuum*, for, that was what they thought Nature had an Abhorrence to; and becauſe, without this Refuge, they had no other Way to account for Motion, and many *Phænomena*, upon the Suppoſition of a Plenitude. But, it is eaſy to ſhew their Miſtake therein: For, were there any ſuch Matter, and the Air full therewith, the Denſity of Air would be equal to the Denſity of Quick-ſilver, and it would as much reſiſt the Motion of a Piece of Iron downwards, as Quick-ſilver itſelf; and therefore, could neither Iron, or any other Body, fall through it, which is contrary to all Experience. But yet, to make this Matter more clear, it is worth taking Notice, that there is in every Body a Power of Reſiſtance, whereby, as much as poſſible, it preſerves itſelf in its preſent State of Reſt, or an uniform direct Motion. By this natural Property, it becomes a Difficulty, either to put a Body into Motion when at Reſt, or to ſtop it when in Motion. Hence we find, that a Sphere of Lead upon a Plane will, in ſome Meaſure, reſiſt being put into Motion: And whereas, a Motion parallel to the Horizon, towards the Eaſt, for Inſtance, is not oppoſite to that towards the Centre, *i. e.* its Gravitation, (for, a Body may be mov'd either Way) that Reſiſtance cannot ariſe from its Gravitation; therefore, ſince nothing elſe is in this Sphere of Lead, to which can be attributed its Power of Reſiſtance, but the Quantity of Matter contain'd therein, that muſt be accounted the Cauſe of its Reſiſtance. Now, *If two Bodies, which have equal Quantities of Matter, be moved horizontally, in Directions oppoſite to one another, and meet with equal Velocities, they ſtop together, or the Moment of their Reſiſtance is equal; ſo that they muſt be equally heavy.* Whence it follows, that ſuch Bodies are equally heavy, that have equal Quantities of Matter. And, if there be no Vacuities, all Bodies under equal Superficies (as for Inſtance, all Spheres of equal Diameters) will alſo contain equal Quantities of Matter; and therefore, from the foregoing, will be equally heavy; that is, a Sphere of Lead would be no heavier than a Sphere of Wood of equal Bigneſs, if there were no Vacuities in the Sphere of Wood, which is contrary to all Experience: and therefore, there can be no ſuch Thing, as a ſubtile Matter filling the Pores of all Bodies.

Maturation, is moſt properly ſaid of the ripening of Fruit, but, by ſome phyſical Writers, is apply'd to the Suppuration of excrementitious or extravaſated Juices into Matter, and differs from Concoction or Digeſtion, which is the raiſing to a greater Perfection the alimentary and natural Juices in their proper Canals. Medicines, thus procuring Maturation, are generally call'd *Ripeners*, which ſee.

Maxilla inferior, the lower Jaw, is made of one Bone, the Fibres of which at the Chin do not oſſify in Children, 'till they are about two Years old. It is compos'd of two Tables, which are pretty hard and ſmooth; but betwixt theſe *Laminæ* it is porous, and full of little Cavities. Its Figure reſembles the Letter U. At each Extremity it has two Proceſſes: The uppermoſt is call'd *Corone*; it is thin and broad at its Beginning, but it ends in a ſharp Point, which, paſſing under the *Proceſſus Zygomaticus*, has the Tendon of the crotaphite Muſcle inſerted into it. The other, which is ſhorter and lower, has a round Head lin'd with a Cartilage, which is articulated into the *Sinus* of the *Os Petroſum*; but, betwixt the Cartilage which lines the *Sinus*, and that which covers the Head of this Proceſs, there is a Third, which adheres to the *Ligamentum Annulare*, which ſurrounds this Articulation. The Motion of the Jaw ſide-ways, abſolutely neceſſary in chewing, is much facilitated by this looſe intervening Cartilage. The lower Edge of this Jaw is call'd its *Baſis*, and each End of it call'd the *Angle* of the lower Jaw. This Jaw has four Holes; two on its Inſide near its Proceſſes, and two on its Outſide near its Middle. By the internal Holes enter a Branch of the fifth Pair of Nerves, an Artery from the Carotids, and a Vein from the Jugulars, whoſe Branches are ſpread in the Roots of the Teeth. By the external Holes theſe ſame Veſſels paſs, and are diſtributed upon the Chin. It has alſo ſixteen *Sinus*'s into which the Teeth are ſet.

Maxilla ſuperior, the upper Jaw. The Bones of this Jaw are two, common to it and the Skull, called *Os Mali*, which ſee under *Cranium*; and eleven proper, that is, five on each Side, and one in the Middle. They are join'd to the Bones of the Skull by the three common Sutures, and join'd to one another by a fine but true Suture. The firſt of the proper Bones is the *Os Mali*, or *Zygoma*, which is of a triangular Figure. Its upper Side makes the lower and external Part of the Circumference of the Orbit, where it joins the *Os Sphenoides*. Its internal Side joins the *Os Maxillare*. Its external has a long Proceſs, which, joining that of the *Oſſa Temporum*, forms the *Proceſſûs Zygomaticus*. It joins the *Os Frontis* at the little Angle of the Eye. It is concave within, and ſticks out a little forwards, making the higheſt Part of the Cheek. The ſecond is the *Os Maximum*, or *Maxillare*, ſo called, becauſe it is the principal Bone of this Part, and hath ſet in it all the Teeth of the upper Jaw. It is of a very irregular Figure. On its Inſide it joins the *Os Mali*. Its upper Sides make the lower and internal Part or Circumference of the Orbit. At its great *Canthus* it joins the *Os Unguis*, and *Frontis*. The lower Side of the *Os Naſi* is join'd to it. Under the upper Lip it joins with its Fellow on the other Side, and both join'd together make the fore and greateſt Part of the Roof of the Mouth. It is very thin, and between its two *Laminæ* it has a large Cavity, which opens by a ſmall Hole into the Noſtrils. In its lower End it has ſixteen *Sinus*'s or Sockets, in which the Teeth are ſet. It has a ſmall Hole, call'd *Orbiter externus*, in that Part of it which makes Part of the Orbit, through which the Nerves of the fifth Pair which come from the Teeth paſs. Behind the *Dentes Inciſivi,* where it joins with its Fellow, it has another which comes from the Noſtrils. The third is the *Os Unguis.* It has a little thin Bone which lies in the great Angle of the Orbit, and has a Hole in which the lachrymal Bag lies. There does not appear any good Reaſon for accounting this a Bone of the upper Jaw, becauſe it lies entirely in the great Angle of the Orbit; and there is more Reaſon to call it a *Lamina* of the *Os ſpongioſum,* than the *Os planum.* The fourth is the *Os Naſi.* This is a thin but ſolid Bone, which makes makes the upper Part of the Noſe. Its upper Part is join'd to the *Os Frontis* by the *Sutura tranſverſalis.* One of its Sides joins its Fellow, where they are ſupported by the *Septum Narium.* Its other Side joins the *Os Maxillare.* Upon its lower End the Cartilages of the Noſtrils are faſten'd. Externally it is ſmooth, but internally rough. The fifth Bone of the upper Jaw is the *Os Palati.* It is a ſmall Bone almoſt ſquare, and it makes the poſterior Part of the Roof of the Mouth. It is join'd to that Part of the *Os Maxillare* which makes the Fore-part of the Palate; it is alſo join'd to its Fellow, and to the *Proceſſus Pterygodæus.* It has a ſmall Hole through which a Branch of the fifth Pair of Nerves goes to the Membrane of the Palate. The laſt is call'd the *Vomer,* and is ſituated in the Middle of the lower Part of the Noſe. It has a Cleft in its upper Side, in which it receives the lower Edge of the *Septum Naſi.* In its further End it receives a ſmall *Apophyſis* of the *Os Sphenoides,* and its Under-ſide joins the *Os Palati.*

Maxillary Glands. See *Mouth.*

Mean, expreſſes the Middle of any two Extremes.

Meatus, a Paſſage, is us'd for any Outlet: as

Meatus Auditorius, the Opening of the Ear; and

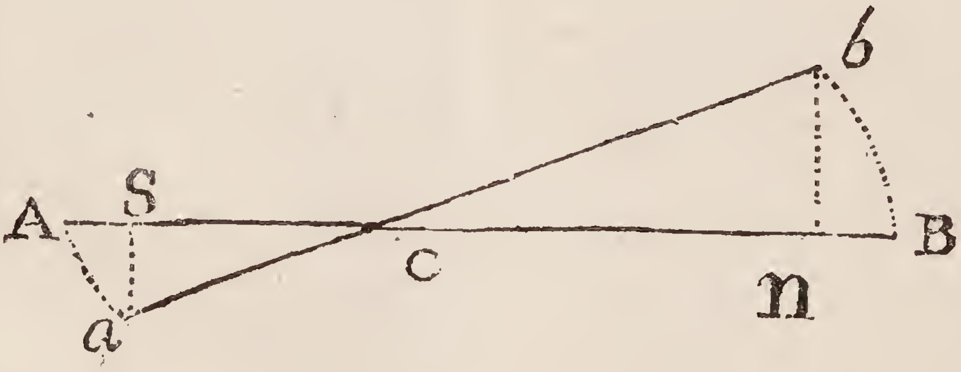
Meatus Urinarius, the Paſſage of the Urine, *&c.*

Mechanical, from *Machina,* an Engine; is a Term much of late introduced into Phyſicks and Medicine, to expreſs a Way of reaſoning conformable to that which is us'd in the Contrivance, and accounting for the Properties and Operations of any Machine. And this ſeems to have been the Reſult and Conſequence of rightly ſtudying the Powers of an human Mind, and the Ways by which it is only fitted to get Acquaintance with material Beings: For, conſidering an animal Body as a Compoſition out of the ſame Matter from which all other material Beings are form'd, and to have all thoſe Properties which concern a Phyſician's Regard, only by Vertue of its peculiar Make and Conſtructure; it naturally leads a Perſon who truſts to proper Evidences in ſuch Affairs, to conſider the ſeveral Parts, according to their Figures, Contexture, and Uſe; either as Wheels, Pullies, Wedges, Leavers, Skrews, Chords, Canals, Ciſterns, Strainers, and the like; and throughout the Whole of ſuch Enquiries, to keep the Mind cloſe in View of the Figures, Magnitudes, and mechanical Powers of every Part or Movement, juſt in the ſame Manner, as is us'd to enquire into the Motions and Properties of any other Machine. For which Purpoſe it is frequently found helpful to decypher, or picture out in Diagrams, whatſoever is under Conſideration, as it is cuſtomary in common Geometrical Demonſtrations; and the Knowledge, obtain'd by this Procedure, is call'd *Mechanical Knowledge*: For which, ſee Introduction to *Sanctorius* explain'd.

Mechanicks, is a Science that ſhews the Effects of Powers, or moving Forces, ſo far as they are apply'd to Engines; and theſe are reckon'd the Balance or Leaver, the Wheel, the Pulley, the Wedge, and the Skrew. The Principle upon which all theſe depend, as to their Operation, may be underſtood by the following *Problem*.

Any Body, as A, *with its Celerity* C, *being given; and alſo another Body as* B: *to find the Velocity neceſſary to make the* Moment, *or Quantity of Motion in* B, *to be equal to the* Moment *of* A, *the given Body.*

Now, ſince *the* Moment *of any Body is equal to the Rectangle under the Celerity and the Quantity of Matter*, (as in the Laws of Motion, which ſee) ſay as *B* : *A* : : *C* : to a fourth Term, which will be *c*, the Celerity proper to *B*, ſo that its *Moment* ſhall be equal to that of *A*. And from hence it follows, that any Body, tho' ever ſo ſmall, may have a *Moment* equal to that of any other Body, tho' ever ſo great, which ſhall be mov'd with any given Celerity: Wherefore in any Machine or Engine, if the Velocity of the Power be made to the Velocity of the Weight, reciprocally as the Weight is to the Power; then ſhall the Power always ſuſtain or move the Weight. Let *A B* be a *Vectis* or Leaver, whoſe *Fulcrum* is at *C*, and let it be mov'd into the Poſition of *a c b*. Now the Velocity of any Point in the Leaver, is as the Diſtance from the Centre.



Let the Point *A* deſcribe the Arch *A a*, and the Point *B* the Arch *B b*; then theſe Arches will be the Spaces deſcrib'd by the two Motions: but ſince the Motions are both made at the ſame Time, the Spaces will be as the Velocities. But 'tis plain, the Arches *A a* and *B b* will be to one another as their *Radii* *A C* and *C B*, becauſe the Sectors *A C a* and *B c b* are ſimilar: Wherefore the Velocities of the Points *A* and *B*, are as their Diſtances from the Centre *C*. *Q. E. D.*

Now, if any Powers are apply'd to the Ends of the Leaver *A* and *B*, in order to raiſe its Arms up and down, their Force will be expounded by the Perpendiculars *S a* and *b N*; which being, as the right Sines of the former

mer Arches *b B* and *a A*, will be to one another alſo as the *Radii A c* and *c B*; wherefore *the Velocities of the Powers are alſo as their Diſtances from the Centre.* And ſince the Moment of any Body is as its Weight, or gravitating Force, and its Velocity conjunctly; if different Powers or Weights are apply'd to the Leaver, their Moments will always be as the Weights (or Powers) and their Diſtances from the Centre conjunctly. Wherefore, if to the the ſame Leaver there be two Powers or Weights apply'd, reciprocally proportional to their Diſtances from the Centre, their Moments will be equal; and if they act contrarily, as in the Caſe of the *Stilliard*, the Leaver will remain in an horizontal Poſition, or the Balance will be *in Æquilibrio.* And thus 'tis eaſy to conceive, how the Weight of one Pound may be made to balance a Thouſand, *&c.* And from hence 'tis plain, that the Force of the Power is not at all increas'd by Engines, but only the Velocity of the Weight, in either lifting or drawing, is ſo diminiſh'd by the Application of the Inſtrument, that the Moment of the Weight may not be greater than the Force of the Power. Thus, for Inſtance, if any Force can elevate a Pound Weight with a given Velocity, 'tis impoſſible by any Engine to effect that the ſame Power ſhall raiſe two Pound Weight with the ſame Velocity; but 'tis poſſible by an Engine to raiſe two Pound Weight with half the Velocity, and 10000 Times the Weight with $\frac{1}{10000}$ of the former Velocity. As the Skrew is alſo nothing but a Wedge driven with a Leaver, its Power may be in the ſame Manner calculated, as likewiſe all the other Powers, from their Affinities hereunto: And an abſolute Neceſſity there is of forming ſome general Notions of theſe Things, to underſtand the mechanical Conſtructure of an human Body, and more particularly, what Power the Limbs have in Motion by Vertue of the different Shapes and Inſertions of their Muſcles, which are exactly reducible to the Affections of theſe Principles.

Mechanical Affections, are ſuch Properties in Matter or Body as ariſe from its Figure, Bulk, and Motion: And

Mechanical Cauſes, are us'd in the ſame Senſe: And

Mechanical Solutions, are Accounts of Things upon the ſame Principles.

Meconium, from *μήκων*, *Papaver*, a Poppy, is properly the condens'd Juice of Poppies, or Opium: but it is us'd alſo for the Excrements of a *Fœtus* which adhere to the Inteſtines after Birth, becauſe they have been imagin'd to have ſome Reſemblance to Opium in Colour.

Mediana, a Vein of the Cubit is thus call'd from its Situation in the Middle between *the Cephalick* and *Baſilick*.

Medianum, or

Mediaſtinum, *quaſi medio ſtare*, to ſtand in the Middle. This is a double Membrane, form'd by the Continuation of the *Pleura*, which comes from the *Sternum*, and goes ſtrait down thro' the Middle of the *Thorax* to the *Vertebræ*, dividing the Cavity in two. It contains, in its Doublings, the Heart in its *Pericardium*, the *Vena Cava*, the *OEſophagus*, and the ſtomachick Nerves. The Membranes of the *Mediaſtinum* are finer and thinner than the *Pleura*, and they have a little Fat. The *Mediaſtinum* receives Branches of Veins and Arteries from the mamillary and diaphragmatick, and one proper call'd *Mediaſtina*: Its Nerves come from the ſtomachick; it has alſo ſome Lymphaticks, which open into the thoracick Duct. The *Mediaſtinum* divides the *Thorax* into two Parts, to the End that one Lobe of the Lungs may officiate, if the other be hinder'd by a Wound on the other Side. Sometimes there is a Matter contain'd betwixt its Membranes immediately under the *Sternum*, which may occaſion the trepanning of this Place.

Mediaſtinum Cerebri, is the ſame as *Septum tranſverſum*, which ſee.

Medicaſter, a falſe Pretender to the Knowledge of Medicine; the ſame as Quack.

Medicament, the ſame as

Medicine; the ordinary Uſe of this Term needs no Explanation: but it is alſo frequently us'd to expreſs the whole Art of Healing, and includes all the Parts belonging thereunto. By the Schools it is divided into, 1. *Phyſiologia*; 2. *Pathologia*; 3. *Semeiotica*; 4. *Hygieina*; 5. *Therapeutica*: Which ſee under their reſpective Names.

A general Idea of the Operation of Medicines Dr. *Keil* has given, in his Account of *Animal Secretion*, to the following Effect. A few different Sorts of Particles, variouſly combin'd, will produce great Variety of Fluids; ſome may have one Sort, ſome two, ſome three or more; and perhaps the aqueous Fluid is the common Baſe of all Secretions. If we ſuppoſe only five different Sorts of Particles in the Blood, and call them *a*, *b*, *c*, *d*, *e*, their ſeveral Combinations, without varying the Proportions in which they are mix'd, will be theſe following;

ab : *ac* : *ad* : *ae* :
bc : *bd* : *be* : *cd* :
ce : *de* : *abc* : *adc* :
abd : *abe* : *ace* : *ade* :
bdc : *bde* : *bec* : *dec* :
abcd : *abce* : *acde* : *abde* :
bcde : *abcde* :

but whether more or leſs, need not be determin'd. No Theory of Secretion has hitherto been able to give any tolerable Account of the Operation of ſuch Medicines as promote Evacuation. For if the Humours are equally mix'd with the Blood, that is, if the Blood is in every Part of the Body the ſame, and its Particles are not more apt to form certain Humours, in ſome certain Parts of the Body than in others; or if they are not forced by the Power of ſome Medicine to form ſuch Humours; then the Quantities of Humour, ſeparated in equal Times, will always be as the Velocity of Blood: but the Velocity of the Blood is doubled by any Medicine, and never tripled by the moſt acute Fever. The Quantity of Humours, however drawn off by evacuating Medicines, is often twenty Times greater than the natural Quantity; and therefore upon Suppoſition that the Humours are every where equally mix'd with the Blood, the Operation of evacuating Medicines can never be accounted for.

Though this Argument has the Strength of a Demonſtration, yet there are ſome who explain the Operation of purgative and other evacuating Medicines by a ſtimulating Faculty, whereby the ſluggiſh Juices are not only forced out, but the obſtructed Canals open'd, and the Motion of the Blood quicken'd. But tho' ſuch a Power be allow'd, it would remain to be explain'd, why certain Medicines do only ſtimulate certain Glands? For it is evident, that evacuating Medicines have ſome other Power beſides that of ſqueezing out ſtagnant Juices, becauſe, when they are all ſqueez'd out, they ſtill evacuate as much, if they are repeated, as they did before; as is plain by continuing a Salivation for many Days. Secondly, We cannot ſuppoſe that all Bodies have every-where, and at all Times, Juices ſtagnating; but theſe Medicines conſtantly produce their Effects, more or leſs, at all Times. Thirdly, If the Veſſels be ſuppos'd to be obſtructed, an evacuating Medicine could but double the Quantity that was evacuated before it was taken. Fourthly, If theſe Medicines operate only theſe Ways, then in an healthful Body, where there were no Obſtructions, they would have no Effect at all. Fifthly, If the removing Obſtructions were the Cauſe of a greater Quantity evacuated, then the Evacuation ſhould ſtill continue in a greater Degree, than before the Obſtruction was remov'd; whereas in Fact we conſtantly find it leſs, as the Medicine works off. Sixthly, Tho' a Medicine by ſtimulating a Veſſel may quicken the Motion of Fluid in that Veſſel, yet it can never increaſe the Quantity of Fluid running through it in equal Spaces of Time, becauſe it quickens the Motion of the Fluid only by contracting the Veſſel; and therefore, the faſter the Fluid is made to run thro' the Veſſel, the leſs Fluid the Orifice of the Veſſel admits: and conſequently, after the Veſſel is contracted by the ſtimulating Medicine, the Secretion will be leſs inſtead of being greater. That a *Stimulus* cauſes the Part upon which it acts to contract, is Matter of Fact, and that purgative Medicines do ſtimulate the Bowels; but likewiſe it may perhaps be ſaid they ſtimulate the Heart and Arteries, and increaſe their Force, ſeeing they not only quicken but raiſe the Pulſe: So that a greater Quantity of Blood is ſent to the Glands of the Guts. This may be granted, but not that it is the principal Action of purgative Medicines, becauſe that by the ſame Force a greater Quantity of Blood is ſent to all the other Glands of the Body, whoſe Fluids are not however ſenſibly increas'd; and the Glands of the Inteſtines receive a leſs Quantity in Proportion than any others, becauſe they cannot be ſo much dilated by the greater Force of the Blood, as others which are not ſo much ſtimulated by the Medicine.

There are others who will have evacuating Medicines endu'd with an attenuating Quality, by which they diſſolve all the Coheſions of the Particles of the Blood, and ſo ſet the ſeveral Humours at Liberty to paſs through their proper Glands: but if theſe Medicines have a Power univerſally to diſſolve all the Coheſions of the Blood, then every evacuating Medicine would equally and indifferently increaſe the Quantity of every Secretion: Mercury would as conſtantly purge as ſalivate, and Nitre promote Perſpiration as well as it does Urine; but this is repugnant to Experience. If they have a Power to diſſolve certain Coheſions, and not others, this is but ſetting certain Particles at Liberty to paſs thro' their proper Glands, which were not ſo before, and is a preparing the Humours, in order to increaſe the Quantity of Secretion. Evacuating Medicines muſt, therefore, have a Power to affect ſome Particles, and not others, that is, to repel ſome, and attract, retain, and alter others; and this is what may be affirm'd to be in all Medicines, and is what a thouſand chymical Experiments demonſtrate.

The ſeveral Humours then being form'd by the different Coheſion of the Particles of Blood, the Quantity of Humour, ſecern'd by any Gland, muſt be in a Proportion compounded of the Proportion, that the Number of the Particles, cohering in ſuch a Manner as is proper to conſtitute the Humour which paſſes through the Gland, bears to the Maſs of Blood, and of the Proportion of the Quantity of Blood that arrives at the Gland. And hence it follows, that where there is a determinate Quantity of a certain Humour to be ſeparated, the Number of Particles, proper to compoſe the ſecern'd Liquor, muſt be reciprocally proportional to the Quantity of Blood that arrives at the Gland: And therefore, if the Quantity of Secretion is to be increas'd, the Number of Particles is to be increas'd; if the Secretion is to be leſſen'd, the Number of Particles, proper for ſuch a Secretion, is to be leſſen'd in the ſame Proportion. Medicines, therefore which can alter the Coheſions and Combinations of the Particles, can either increaſe or diminiſh the Quantity of any Secretion. Thus, ſuppoſe the Humour which paſſeth thro' the Glands of the Inteſtines to be compos'd of three or four ſeveral Sorts of Particles; that Medicine which will eaſily cohere to thoſe Particles, and cohering increaſe their mutual Attractions, ſo as they unite in greater Numbers, at or before they arrive at the Inteſtines, than they would have done, if the Medicine had not been given, muſt neceſſarily increaſe the Quantity of Humour which paſſeth thro' the Glands of the Inteſtines, if the Quantity of Blood which arrives at the Glands is not diminiſh'd in the ſame Proportion, as the Number of Particles is increas'd. After the ſame Manner do Diureticks, Sudorificks, and Medicines which promote all other Secretions, operate.

Why increaſing the Quantity of ſome Secretions ſhould diminiſh that of others, is not eaſy to explain upon any other Foot: For if the Blood be equally mix'd in every Part of the Body with all the Humours which are ſeparated from it; that is, if the Mixture of the Blood is every-where alike, ſo that every Humour bears the ſame Proportion to the reſt of the Arterial Blood, in one Part of the Body that it does in another; and if every Humour has its own proper Gland thro' which it is ſeparated, then what is ſeparated by one Gland is not ſubſtracted from another, and conſequently does not diminiſh the Quantity of Humour which flows to this other, but does, indeed, rather increaſe the Quantity of this other Secretion: For the more any one Humour is carry'd off, the greater Proportion any other, remaining in the Blood, bears to the remaining Blood; and therefore, the more any one Secretion is increas'd, the more all the reſt ſhould be increas'd likewiſe. But if all the Humours are compos'd by a Combination of a few different Sorts of Particles, then the more apt theſe Particles are to run into any one Sort of Combination, the leſs all other Combinations muſt be; and conſequently the increaſing any one Secretion muſt neceſſarily diminiſh the Quantity of all others; but moſt eſpecially of that which has the moſt of the ſame Sort of Particles.

Medicinal Days, ſuch are ſo call'd by ſome Writers, wherein no Criſis or Change is expected, ſo as to forbid the Uſe of Medicines, in order to wait Nature's Effort, and therefore require all Aſſiſtance from Art to help forward, or prepare the Humours for ſuch a Criſis: but it is moſt properly us'd for thoſe Days, wherein Purging, or any other Evacuation, is moſt conveniently comply'd with.

Medicinal Hours, are thoſe wherein 'tis ſuppos'd that Medicines may be taken to the greateſt Advantage, commonly reckon'd in the Morning faſting, about an Hour before Dinner, about four Hours after Dinner, and going to Bed; but in acute Caſes the Times are to be govern'd by the Symptoms, and Aggravation of the Diſtemper.

Meditullium, is that ſpongy Subſtance between the two Plates of the *Cranium*, and in the Interſtices of all laminated Bones.

Medium, ſignifies that peculiar Space or Region through which Bodies move, as Air, Water, *&c.* And whatever Denſity or Tenacity there is in the Parts of the *Medium*, whereby Bodies moving in it are retarded or ſtopp'd, is call'd the *Reſiſtance of the Medium.* This Dr. *Wallis* has aſſerted to be always as the Square of the Velocity of the moving Body; but in a very denſe *Medium*, it muſt be in a leſs *Ratio.* For in the former Computation it is conſider'd, that, by the Action of a ſwift Body, there is communicated to the ſame Quantity of the *Medium* a greater Motion in Proportion to that greater Velocity. As to the different Reſiſtances reſulting from the different Figures of moving Bodies, thro' the ſame *Medium*, they are too various to be here recited; for which, therefore, conſult the Works of Mathematicians on that Head. See alſo *Projectils.*

Medius Venter, the middle Venter, is the Breaſt, or *Thorax.*

Medulla, Marrow; which ſee.

Medulla Cerebri, is the white ſoft Part of the Brain, cover'd on the Outſide with the cortical Subſtance, which is of a more dark or aſhy Colour. See *Brain.*

Medulla Oblongata, is that Part within the Skull which is the beginning of the ſpinal Marrow; it is about three or four Inches in Length within the Skull, and then it deſcends to the *Os Sacrum*, through the Hole of the hinder Part of the Head and the *Vertebræ:* It ſends out ten Pair of Nerves to the Cheſt, the *Abdomen*, and the Limbs. This is accounted the common Senſory, or Seat of Senſation, whereunto all the Impreſſions made upon the Nerves, by external Objects, are return'd.

Medulla Spinalis, or the ſpinal Marrow, is the Continuation of the *Medulla Oblongata* without the Skull, and which, paſſing through all the *Vertebræ* of the Back, ends in the *Os Sacrum*. It is the Origin of moſt of the Nerves of the Trunk of the Body, ſending out thirty Pair on each Side to the Limbs, to the great Cavities, and other Parts. By a nice Hand it may be ſever'd into many ſmall Fibres, which may be trac'd up to its Original, the *Medulla Oblongata*.

Medullary Oil. The finer and more ſubtile Part of the Marrow of the Bones is thus call'd. Dr. *Clopton Havers*, in his *Oſteology*, ſays, It paſſes not into them by Ducts, but by ſmall Pores form'd into the Veſicles or Glandules, which are conglomerated into diſtinct *Lobules*, contain'd in ſeveral Membranes inveſting the whole Marrow; all which Veſicles or Bags are propagated from the outward Coat of the Arteries; and by which it paſſes from one to another, 'till it arrives at the Sides or extreme Parts of the Bone. That Part of it, which is ſupply'd to the Interſtices of the Joints, goes into them by Paſſages, penetrating thro' the Bone into thoſe Cavities, and form'd for that End. The Uſe of this Oil is either common to all the Bones, whoſe Temper it preſerves and keeps from being too brittle; or more peculiar for the Joints, where it is very ſerviceable, 1. To lubricate the Bones at their Extremities, that they may move more eaſily and free. 2. To keep the Ends of the articulated Bones from growing hot with Motion. 3. To preſerve the Joints from wearing by Attrition, and rubbing againſt one another. And, 4. To preſerve the Ligaments of the Joints from Dryneſs and Rigidity; and lubricate thoſe Parts which ſlide upon the Bones, and keep the Cartilages, which are join'd to them, flexible.

Megales, μεγαλής, great; is prefix'd to many Things which exceed their common Bulks, as *Megalophonos*, μεγαλόφονος, to one who hath a large Voice; and *Megaloſplanchnos*, μεγαλοσπλάγχνος, by *Hippocrates* to one who hath *Viſcera* preternaturally large.

Melanagogues, are ſuch Medicines as are ſuppos'd particularly to purge off black Choler; from μέλας, *niger*, black, and ἄγω, *duco*, to lead: but there is no ſuch Diſtinction of Choler now much regarded, and conſequently this Term is but little us'd.

Melancholy, from μέλας, *niger*, black, and χολὴ, *Bilis*, Choler; thus call'd, becauſe ſuppos'd to proceed from a Redundance of black Bile: but it is better known to ariſe from too heavy and too viſcid a Blood, which permits not a Sufficiency of Spirits to be ſeparated in the Brain to animate and invigorate the Nerves and Muſcles. Its Cure is in Evacuation, nervous Medicines, and powerful *Stimuli*.

Meliceris, from μελὶ, *Mel*, Honey; is a Tumor incloſ'd in a *Cyſtis*, and conſiſting of Matter like Honey: It gathers without Pain, and gives Way to Preſſure, but returns again. It is to be cur'd by warm Diſcutients.

Meloſis, μήλωσις, is a Term which frequently occurs in *Hippocrates*, *de Capit. Vulner.* for that Search into Wounds which is made by Surgeons with the *Specillum* or Probe. And, *Melòtis*, μηλωτὶς, is us'd for the leſſer *Specillum*, and often for that particular Inſtrument contriv'd to ſearch or cleanſe the Ear with more commonly call'd *Auriſcalpium*.

Mellago, was formerly much us'd for any Juice or Liquid that was boil'd up to the Conſiſtence of Honey.

Membrane. This is a Web of ſeveral Sorts of Fibres interwoven together for the covering and wrapping up ſome Parts. The Fibres of the Membranes give them an Elaſticity, whereby they can contract and cloſely graſp the Parts they contain, and their nervous Fibres give them an exquiſite Senſe, which is the Cauſe of their Contraction; they can, therefore, ſcarcely ſuffer the Sharpneſs of Medicines, and are difficultly united, when wounded. In their Texture there is a Number of ſmall Glands, which ſeparate an Humour fit for moiſtening the Parts which they contain. By reaſon of the Thickneſs and Tranſparency of the Membranes, the Ramifications of the Blood-Veſſels are more apparently to be ſeen in them than in any other Part of the Body; here the innumerable Diviſions, Windings and Turnings, ſerpentine Progreſſions, and frequent Inoſculations, not only of Veins and Arteries together, but alſo of Veins with Veins, and Arteries with Arteries, make a moſt agreeable Embroidery and delicate Network covering the whole Membrane. Nor is Nature always conſtant to the ſame Diſpoſition, but delights in Variety here, as well as in the Diſpoſition of the Branches and Leaves of Plants and Trees. Thoſe that cover the ſolid Parts are properly call'd Membranes; and they have their particular Names, as the *Peritonæum*, which wraps up all that is contain'd in the *Abdomen*; the *Pleura*, that which is in the *Thorax*; the *Perioſteum*, the Bones; and the *Pericardium*, the Heart. Thoſe which form the Coats of Veſſels, and which contain the Humours, as thoſe of the Veins and Arteries, Stomach, Bladder, Inteſtines, Teſticles, *&c.* are call'd Tunicles or Coats: and thoſe which cover and embrace the Brain, as the *Dura Mater*, and the *Pia Mater*, are call'd *Meninges*. Of all theſe Kinds of Membranes, ſome are thin, and ſome are thick; and the ſame Membrane is thick in ſome Places, and thin in others, as in the *Membrana Adipoſa*, which is thicker in the Neck than in any other Part of the Body. The Uſe of the Membranes is to cover and wrap up the Parts, and ſtrengthen them; to ſave them from external Injuries; to preſerve the natural Heat; to join one Part to another; to ſuſtain ſmall Veſſels, and the Nerves which run thro' their Duplicatures; to ſtop the returning of the Humours in their Veſſels, as the Valves ſtop the returning of the Blood in the Veins and Heart; of the Chyle in the Lacteals and thoracick Duct; and of the *Lympha* in the lymphatick Veſſels. By the *Membrana Adipoſa* is moſt commonly underſtood that Part of it only which lies next the Fleſh, and which contains but little Fat in its Cells; and therefore, appearing more membranous than the reſt, is ſaid to be the Baſis of the *Cellulæ Adipoſæ*. And even ſome Part of this hath been taken by Anatomiſts for the *Membrana Carnoſa*, on the Account of its Redneſs;

for here the Blood-Veſſels lie very thick, the Veſicles not being diſtended with Fat. Anatomiſts do generally aſſert, That there is a *Membrana communis Muſculorum*, being led into that Miſtake by the *Aponeuroſis* of ſeveral Muſcles; whereas upon ſtricter Obſervation, there is no ſuch Thing to be found. The *Membrana propria Muſculorum* is that which immediately covers all and every one of the Fibres of a Muſcle, and is cloſely tack'd to them. There is another call'd *Membrana communis Vaſculorum*, which is a thin Membrane, and accompanies almoſt all the Veſſels of the Body. All theſe Membranes receive Veins, Arteries, and Nerves from the Parts which are neareſt to them.

Membrana Adipoſa: See the preceding, and *Adipoſa Membrana*.

Membrana Carnoſa, the ſame as *Panniculus Carnoſus*.

Membrana communis Muſculorum. See *Membrane*.

Membrana Propria Muſculorum. See *Membrane*.

Membrana Tympani. See *Ear*.

Membrana Urinaria, the ſame as *Allantois*; which ſee.

Membranoſus Muſculus, is a Muſcle of the Leg, ſo call'd from the large membranous Expanſion it is continu'd with, incloſing all the Muſcles of the *Tibia* and *Tarſus*; whence it is alſo call'd *Faſcia lata*. It hath a ſharp fleſhy Beginning from the Fore-part of the Spine of the *Os Ilium*, between the Origination of the *Sartorius* and tendinous Beginning of the *Glutæus magnus*; and being dilated to a fleſhy Belly, which fills the Interſtice made by the firſt of the two laſt nam'd Muſcles and upper Part of the *Rectus* and Fore-part of the *Glutæus medius*, in its oblique Deſcent becomes tendinous, four Fingers Breadth below the great *Trochanter*, whence it paſſes directly over the *Vaſtus externus* to its proper Termination, at the ſuperior Appendix of the *Fibula*: but in its Progreſs thither, it is conjoin'd with the tendinous Expanſion of the *Glutæus magnus*, which ariſeth from the Spine of the *Ilium*, covering the external Part of the *Glutæus medius*, and all the external Muſcles of the *Tibia*, as thoſe of the Thigh-bone; and deſcending over the *Patella*, comprehends all the Muſcles of the *Tarſus*, and joins with the *Ligamentum Annulare*, which retains the Tendons of the Toes and Feet. When this Muſcle acteth, the Leg and Thigh are drawn outwards.

Membrum, a Member, or Limb.

Memory, is that Faculty whereby the Mind repeats Things receiv'd by former Senſations; or is the calling to Mind known and paſt Things: as when we conceive Heat or Light, Sweet or Bitter, *&c.* when the Object is remov'd; and it is in a Manner the Store-Houſe of our Ideas. Many Philoſophers, as well as Phyſicians, have been at great Pains to give ſome intelligible Account of this Power, but without any further Succeſs than to puzzle themſelves and others more than they were before.

Menagogues, are ſuch Medicines as promote the Flux of the *Menſes*.

Mendoſus, is us'd by ſome in the ſame Senſe as *Spurius* or *Illegitimus*; as *Mendoſæ Coſtæ*, and *Mendoſa Sutura*.

Meninglophylax, is an Inſtrument us'd in Wounds of the Head, largely deſcrib'd by *Celſus*, but more accurately, with its Uſe, by *Scultetus*, *Arm. Chirurg. Part* I. *Tab.* 2. *Fig.* 10. *Gorræus* takes Notice of ſomewhat like it, under the Name *Vectis*, the ſame as the *Mochlion* of the *Greeks*.

Meninx, or *Meninges*. See *Brain* and *Membrane*.

Menſes. Theſe are the Monthly Evacuations of Women from the *Uterus*; and is as nice an Affair rightly to underſtand, as any Thing that concerns the human Mechaniſm. In order hereunto therefore, beſides what was ſaid before under *Generation-Parts of, peculiar to Women*, which ſee; it may be neceſſary further to obſerve, 1. That the *Vagina*, or Paſſage to the Womb in Women, as well as the whole Body, is perpendicular to the Horizon, whereas in all Brutes it is in a parallel Situation. 2. That the Membrane covering the Womb on the Inſide, as well as the *Vagina*, and into which there are diffus'd a great Number of Veins and Arteries, is very thin, and without Fat; ſo that theſe Veſſels are leſs guarded than in other Parts, where they are inclos'd with Muſcles and Fat. 3. That the Blood-Veſſels in this Part are prodigiouſly numerous, and particularly in the Womb; where alſo their large Ramifications inoſculate with one another, the Arteries with the Arteries, and the Veins with the Veins; and likewiſe the Branches of one Side of the Womb with thoſe on the other, which meet not one another in ſtrait Lines, but are folded and curv'd into a Multitude of ſerpentine Windings. Which Conſtructure is neceſſary at the Time of being big, elſe the Veſſels would be ſo preſs'd, as to burſt or obſtruct; whereas this Contrivance helps them to give Way, and keep always the Paſſage of ſome free. 4. That the deſcending Trunk of the *Aorta* is much larger in Women than in Men. And, 5. That the uterine Veins have no Valves.

Now, in order to know why theſe Veſſels are ſo frequently broke through, it is of Conſequence to premiſe, that Women are of a more tender Frame than Men, and that therefore, when they are at, or near full Growth, the Quantity taken in by Diet is not digeſted and broke enough to go away in a due Proportion by Evacuation; and therefore, in the Veſſels there is an Accumulation of Humours, or a *Plethora.* But then, to underſtand how this Overplus is carry'd off by this Diſcharge, it will be needful alſo to attend to theſe following Propoſitions, which Mathematicians teach us.

Prop. 1. The Moment of every Body, or that Force, by which every Body endeavours to preſs forward, is increas'd, by increaſing the Velocity, or Quantity of Matter, or both.

2. If the Moment of any Body is greater than the Impediment in its Way, it will remove that Impediment.

3. In all Percuſſions the Stroke is proportional to the Force loſt.

4. The Force loſt is as the Reſiſtance.

5. If a Body is projected againſt any Impediment with a given Force, the Stroke will be as the Sign of the Angle of Incidence.

6. In every Fluid there is not only a Preſſure downwards, but every Way.

7. A Fluid preſſes upon incloſing Bodies on every Side, with a Force equal to that by which its Parts endeavour to recede from one another.

8. The lateral Preſſure is as the Height of the incumbent Fluid.

9. The Direction of ſuch Preſſure is perpendicular to the Sides of the Veſſel which are preſſed upon.

The two firſt Propoſitions ſhew why the Blood breaks thro' the Veſſels in a *Plethora*; and the reſt, why thro' the uterine Veſſels. Nothing is more plain, than that the Moment of the Blood is increas'd in a *Plethora*, if its Velocity continues the ſame; becauſe its Quantity is increas'd: To which, if an increas'd Velocity be added, its Moment will be ſtill much greater. And, in a *Plethora*, both the Quantity and Velocity of Blood is increas'd, if there is no Lentor, or Viſcidity; for, in a Blood rightly digeſted, the Quantity of Spirits ſecern'd will be as its Quantity; and the more they are ſeparated, the more forcibly will the Heart contract, and conſequently, throw the Blood with greater Force againſt any Impediment: For, in this Caſe, the Blood-Veſſels are look'd upon to be ſuch, and will continue to be ſo, as long as their Reſiſtance is greater, or equal to the Blood's Moment; but when that Moment exceeds ſuch Reſiſtance, the Blood will break through them. And the uterine Veſſels, becauſe they are not guarded with Muſcles of Fat, are the moſt eaſy to be thus broke through.

Becauſe by *Prop.* 3. the Stroke in all Percuſſions is as the Force loſt, let it be examin'd, Whether there is any Diminution of Velocity in the uterine Veſſels, and which may eaſily be deduc'd from the Structure of thoſe Veſſels already taken Notice of: For, they go on not in ſtrait Lines, but in various Windings over the whole *Uterus*. And therefore, ſince by *Prop.* 4. the Diminution of Velocity is as the Reſiſtance; if in them there is a greater Reſiſtance, the Stroke upon them will be the greater. And, that there is a greater Reſiſtance in thoſe Veſſels, may be thus demonſtrated: If a Fluid be propell'd in a ſtrait Canal, there can only be a lateral Preſſure, ſo far as the Fluid thruſts againſt the Sides of the Veſſels, by *Prop.* 7. for the Sides oppoſe not its direct Motion. But if a Fluid be propell'd through a curv'd Canal, it then not only preſſes againſt the Sides of the Canal, but its Moment, as much as can be, bears againſt them; and by how much the greater this Impediment is, by ſo much the more will be the Stroke upon them. And the greater the Curvity is of ſuch a Veſſel, that is, the more oppoſite it is to the Direction of the

Fluid, the gteater will be its Reſiſtance; and conſequently, will the Fluid be propell'd againſt it with the greater Force, or the greater will its Stroke upon it be: and by this Means will the Fluid have a greater Advantage in breaking through it.

Fig. 1

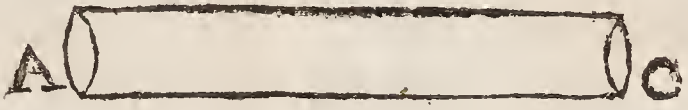


Fig 2

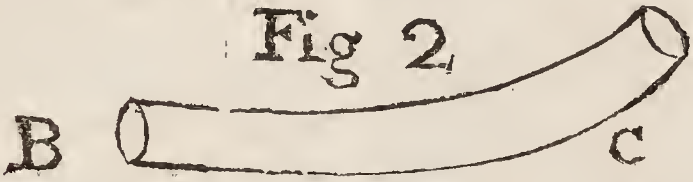


Fig. 3

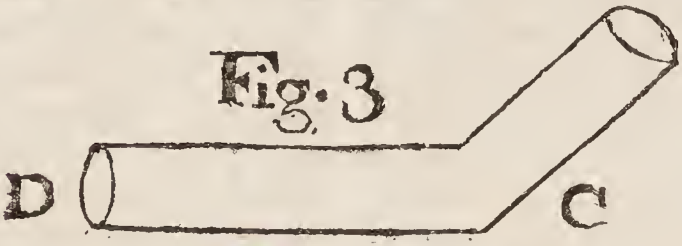
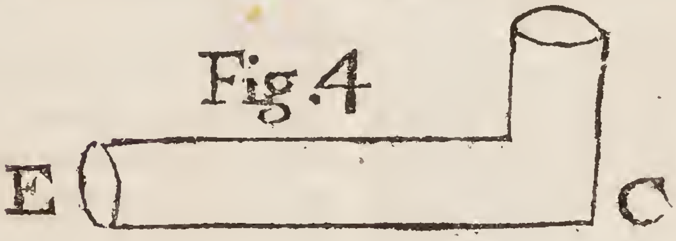


Fig 4



In the Cylindrical Canal *A C* (*Fig.* 1.) where the Axis is parallel to the Direction of the Fluid, the Fluid will have no Force upon its Sides; and therefore, will there be no Stroke againſt them: For all the Power the Fluid in this Caſe has, is againſt the Sides of the Veſſels perpendicularly. But if the Quantity of Fluid is increas'd, ſuch Preſſure will be increas'd, which will occaſion a Diſtenſion of the Canal, and thereby a laxer Texture of Fibres, and a weaker Coheſion betwixt them. If then the Veſſels be ſomewhat inflected, ſo that the Blood runs obliquely from *B* to *C*, (as in *Fig.* 2.) an increas'd Quantity of Blood will not only diſtend its Sides, but be thrown againſt the inflected Part with a Force; and this Force will be greater, if the Veſſels be more inflected, being always as the Sine of the Angle of Incidence. For, if the Blood be directed from *D* to *C*, (as in *Fig.* 3.) the Stroke at *C* will be greater than when it run from *B* to *C* (in *Fig.* 2.) And therefore, the more the Canal continues to be inflected, the more will the Blood's Force upon *C* be augmented, until it comes to be quite perpendicular, (as in *Fig.* 4.) when it will be the greateſt poſſible; becauſe there the Sine of the Angle of Incidence is greateſt. Add to this alſo, that the more the Veſſels are contorted in their Progreſs to any Part, the longer they muſt be to reach it; and the longer they are, the greater Quantities of Blood will they contain, and in a greater Quantity of Blood there is a greater Moment, and conſequently, it will ſooner make an Eruption thro' the Veſſels.

From the Fabrick of the Womb, as to its perpendicular Poſition to the Horizon, it will alſo further appear what Neceſſity there is for the Blood to break through the Veſſels there, rather than any-where elſe, in theſe Circumſtances; as alſo from the ſame Poſition of the great Artery, which carries the Blood to the Womb: For by *Prop.* 7. the Preſſure of a Fluid, upon its containing Veſſel, is not only downwards, but againſt its Sides; and by *Prop.* 8. ſuch lateral Preſſure is as its Altitude, and therefore, the whole Column of Blood, in the deſcending Artery, will preſs upon the uterine Veſſels; and becauſe that Preſſure is, by *Prop.* 9. perpendicular to their Sides, it will diſtend them. And, if ſuch Diſtention be join'd to the Advantage which the Blood has againſt the uterine Veſſels, by Means of their Inflections, it can be no Wonder, why the Blood breaks through them ſooner than any-where elſe. For, by reaſon of the *Plethora*, and the Weight of a Fluid preſſing perpendicularly againſt the Sides of the Veſſels, the Sides of thoſe Veſſels become ſtretch'd, ſo that their conſtituent Fibres are at greater Diſtances from one another; and by how much the more they are ſo divided, by ſo much the eaſier will any Force break quite through them. And hence ariſes very naturally the Reaſon why Brutes, which have the ſame Fabrick of Parts, have not theſe Diſcharges, becauſe their Situation, with regard to the principal Canals, are parallel to the Horizon, which entirely takes away all that perpendicular Preſſure againſt the Sides of the Veſſels from the Column of Blood in the deſcending Trunk of the *Aorta*, and which is none of the leaſt Cauſes of its happening to Women.

The Want of Valves in theſe Veſſels is alſo another Argument for their being fitter for this Diſcharge than any other; becauſe all that Force which the Blood has from the Heart remains without any Check, which it has from them in other Parts. What further relates to this curious Mechaniſm of Nature, and the accounting for the Periods from a *Plethora*; and for that *Plethora*, from a Defect in Evacuation, and chiefly Perſpiration; may be met with at large, treated of in a Manner uncommonly elegant, and demonſtrative, in Dr. *Freind*'s *Emmenologia*. See alſo *Mars*.

Menſtrual Diſcharge. The ſame as *Menſes*.

Menſtrua alba, the ſame as *Fluor albus,* the White Flux; which ſee.

Menſtruum. All Liquors are ſo call'd, which are us'd as Diſſolvents, or to extract the Virtues of Ingredients by Infuſion, Decoction, *&c.* There have been many Inventions to explicate why ſome Bodies diſſolve in a ſaline *Menſtruum*, as Metals; others in a ſulphureous, as Reſins; others again in an aqueous, as Salts: particularly, great Controverſies have ariſen about *Aqua Fortis*, and *Aqua Regia,* why the firſt diſſolves Silver, and not Gold; and why the latter diſſolves Gold, and will not touch Silver. But all which is advanc'd for this Purpoſe is ſo precarious, that their Arguments will not be thought of any Force amongſt right Reaſoners. To bring this Matter, therefore, to our better Conception, it may be remember'd, that the Cavity of the Pores in Gold is not ſo great as that of Silver, becauſe its Gravity does much exceed the Gravity of Silver. Suppoſe, therefore, the Diameters of their Pores to be as 2 to 1, then it will follow, that Corpuſcles, fit to penetrate Gold, muſt be eight Times leſs than thoſe that will enter Silver. Again, ſuppoſe, that the attractive Force in Gold is to that in Silver, as 2 to 1, or as 40 to 20. Farther, let the Diameters of the Particles which compoſe the *Aqua Fortis* be twice as big as thoſe of the Pores of Gold, ſo that they can never enter or penetrate it; and let the Force with which Silver attracts *Aqua Fortis,* compar'd with the Force whereby the Particles of that *Menſtruum* attract one another, be as 20 to 12, and the Coheſion of the Silver to the Moment with which the Particles of *Aqua Fortis* ruſh againſt it, as 8 to 3, which Degree of Force will be ſufficient to make them break the Texture of Silver. Laſtly, Suppoſe the Coheſion of the Particles of Gold to be to that of Silver, as 3 to 2, upon diſſolving *Sal Armoniack* in *Aqua Fortis,* there ariſes, as is well known by Experience, ſuch a vehement Fermentation, that, unleſs it is pour'd on leiſurely, by little and little, the Glaſs muſt burſt. So that, from this violent Motion, and the continual Colliſion of the Particles one againſt another, it may be very well concluded, that their Diameters are leſſen'd by half, and at length become ſo ſmall, as to be capable of entering the Pores of Gold. We ſhould take Notice alſo, that the Force of the *Menſtruum* is much increas'd, when *Sal Armoniack,* or Bay-Salt, is diſſolv'd in the *Aqua Fortis, i. e.* the Force, whereby the Particles of the *Menſtruum* attract one another, is increas'd by the Addition of ſuch Corpuſcles as are very attractive; whereas, therefore, the Force of the *Menſtruum* was before as 12, let it be ſuppos'd now advanc'd to 16, when the *Aqua Fortis* is made *Aqua Regia.* Hence, if the attractive Force be compar'd, that of Silver to *Aqua Regia* will be found as 20 to 16; and the Velocity, with which the Corpuſcles of *Aqua Regia* fall upon the Silver, will be proportional to the Difference of Attraction, *viz.* 4. If all the Particles of *Aqua Regia* were juſt as big as they are in *Aqua Fortis,* then their Quantity of Motion will bear the ſame Proportion to the Coheſion of the Silver, as 4 to 3. But by Suppoſition each Particle is eight Times leſs, and conſequently, muſt have but the eighth Part of the Moment; ſo that the Moment, with which the Corpuſcles of *Aqua Regia* act upon Silver, compar'd with the Coheſion of the Metal, will be as $\frac{4}{8}$ or $\frac{1}{2}$ to 3, *i. e.* as 1 to 6. Hence it is evident, that in theſe Circumſtances Silver cannot be diſſolv'd by *Aqua Regia:* but, if we compare the attractive Force in Gold to that of *Aqua Regia,* it will be found, as 40 to 16; therefore, the Velocity with which the Particles of it attract the Gold, will be as the Difference 24, which Number multiply'd by $\frac{1}{8}$, *i. e.* the Magnitude of the Particles, will give the Quantity of Motion $= \frac{24}{8} = 3$. The Coheſion of Gold is ſuppos'd to be 2, which, being exceeded by the Force of the *Menſtruum*, muſt yield to it, and be diſſolv'd. If, upon comparing the Attraction of the two Metals, that of Gold be triple, when the Attraction of Silver is 20, that of Gold will be 60; and the Difference there is between the attractive Force of Gold and *Aqua Regia*, 44 multiply'd by $\frac{1}{8}$ (the Magnitude of the Particles in *Aqua Regia*) will give a Moment $= \frac{4}{8}$, or $\frac{11}{2}$. And ſince the Force of Coheſion, or Reſiſtance, is as $\frac{11}{2}$, or as 11 to 4, that is, it will exceed it almoſt thrice; the Examples we have given may be vary'd almoſt infinite Ways, but it will come to the ſame Thing, whatever Numbers are apply'd. But, to make the Matter more general, ſuppoſe the Attraction of Gold to that of Silver to be, as a to b, and Silver to *Aqua Fortis*, as b to d, but that of *Aqua Fortis* to *Aqua Regia*, as d to e; let f ſignify the Magnitude of Particles in *Aqua Fortis*, and r thoſe in *Aqua Regia*, c the Coheſion of Gold, and g the Coheſion of Silver. If the Diameters of the Particles f are greater than the Diameters of the Pores of Gold, they can never diſſolve the Gold, let their attractive Force be ever ſo ſtrong. But, if $\overline{b-d} \times f$ exceeds g, then the Silver will yield to that *Menſtruum* whoſe Particles are f, and leſs than the Pores of the Silver: And if $\overline{b-e} \times r$ is leſs than g, the Silver will never diſſolve in that *Menſtruum*, the Particles of which are r, and the attractive Force e. But, if $\overline{a-e} \times r$ be greater than c, the *Menſtruum* made up of the Particles r, and whoſe attractive Force is e, will be able to penetrate and diſſolve the Gold. Now becauſe, in this Caſe, the indeterminate Letters are more than the given Quantities, it is evident, that this Problem may be accounted for ſeveral Ways, every one of which will equally ſolve the Queſtion; but, as the Proportion between the Pores and Coheſion of Gold and Silver, and the Proportion of the attractive Forces of the Metals and the *Menſtruums*, neceſſary to make the Solution exact, are but gueſs'd at; yet perhaps, when Experiments have been more accurately made, they may furniſh theſe *Data* with more Certainty. And upon the ſame Principles and Way of Procedure is this whole Affair to be underſtood. See *Diſſolution, Extraction, Fuſion,* &c.

How a *Menſtruum* can ſuſpend Bodies much heavier than itſelf, which very often happens, may be conceiv'd by conſidering, that the Parts of no Fluids can be ſo eaſily ſeparated but they will a little reſiſt, or retard the Deſcent of any heavy Bodies thro' them; and that this Reſiſtance is, *cæteris paribus*, ſtill proportionable to the Surface of the deſcending Bodies. But the Surface of Bodies do by no Means increaſe or decreaſe, in the ſame Proportion as their Solidities do: For, the Solidity increaſes as the Cube, but the Surface only as the Square of the Diameter; wherefore, it is plain, very ſmall Bodies will have much larger Surfaces, in Proportion to their ſolid Contents, than larger Bodies will, and conſequently, when grown exceeding ſmall, may eaſily be buoy'd up in the Liquor.

Menſurable, or

Menſurability, is when a Body is reducible to any certain Meaſure.

Mentula, the ſame as *Penis* and *Clitoris*; and

Mentulagra, is a Name given to a Diſtemper, wherein the genital Parts of the Male are contracted by a Convulſion, the ſame as *Paulus Ammannus* explains of the *Spadones*; which ſee.

Mentum, is ſo much of the loweſt Part of the Face, as we diſtinguiſh by the Name of *Chin*.

Mephites, and

Mephitical Exhalations, are poiſonous or noxious Steams iſſuing out of the Earth, from what Cauſe ſoever. The moſt remarkable Place of this Kind is in the *Grotta de Cani*, near *Puzzoli*, about two Miles from *Naples* in *Italy*; the Steams of which kill Dogs, or other Animals, when brought within its Reach. A very curious Account of which, and the Manner of its Efficacy, is given by Dr. *Mead*, in his *Eſſay on Poiſons*. See *Poiſon*.

Mercury, with the Chymiſts, is the third hypoſtatical Principle, and ſeems not to differ from what is call'd Spirit. They alſo talk much of the

Mercuries of Metals; but they conceal their Notions in ſuch a peculiar Cant and Jargon, as to run no Hazard of being contradicted, by being underſtood. Mr. *Boyle*, indeed, ſpeaks of a running Mercury, which he obtain'd from Antimony; but that muſt be a Mercury in a much groſſer Senſe than theſe obſcure Philoſophers ſeem to aim at.

But though this Metal has long had a Share in Medicine, yet it ſeems not rightly to have been underſtood, either as to the true Manner of its Preparation, or its Operation in an human Body, till of late. And in this we have a remarkable Inſtance of the Uſefulneſs of mechanical Knowledge; and of which an ordinary Perſon may ſoon be convinc'd, who will be at the Pains to compare the Reaſonings of Monſieur *Lemery*, who is the lateſt and beſt Improver of Chymiſtry, and Dr. *Cheyne*, with ſome others, upon the Properties of this Metal. The former is abſurd, obſcure, and unintelligible, the latter inſtructive and demonſtrative. The Fluidity of Mercury is eaſily underſtood from the Sphericity of its Parts, which makes them ſo readily roll over one another; and its Gravity, from the Solidity of thoſe Parts, containing ſo much Matter in Proportion to their Surfaces; for, a Sphere of all Figures has the leaſt Surface with reſpect to the Matter it contains. The only Difficulty, therefore, is to know how it comes about, that a Body, ſo extremely heavy, ſhould be ſooner rais'd by Fire, than thoſe which are much lighter. And this we are ſoon taught to underſtand, from that Help which Geometry affords, teaching us, that, upon the Diviſion of ſolid Spheres, their Gravities decreaſe in a triplicate Proportion of their Diameters; but the Superficies only in a duplicate. So that a Body circumſtanced as Mercury, if it be diviſible into very light Parts, may be render'd prodigiouſly light, *i. e.* ſpecifically ſo; for, the further it is divided, it grows comparatively lighter, as the ſame Quantity of Matter, which determines its abſolute Weight, comes to exiſt after ſuch Diviſion under much more Surface; which determines its relative Weight: and if this Diviſion is continu'd 'till it is ſpecifically lighter than Air, then will it riſe in Air by the known Laws of Nature. Becauſe therefore, the Sphericity of mercurial Particles gives them leſs Contact with one another; and that, by the Force of ſo minute, though active, an Agent as Fire, its Globules are to be broken into almoſt an infinite Number of more Globules, their ſpecifick Gravities will ſoon be render'd ſo much leſs than thoſe of Air, that they cannot but fly upwards in imperceptible Vapour: When other Bodies ſpecifically lighter in larger Coaleſcencies, becauſe they are not ſo diviſible, and their Figures admit not of ſuch a Decreaſe of Subſtance ſo much faſter than their Surfaces, as thoſe of Mercury do, cannot be render'd ſo much ſpecifically lighter, and therefore, cannot ſo ſoon riſe in Vapour.

But this Solution is much more to our Purpoſe, as it gives great Light into ſome Effects of this Metal, when it comes into Medicine. For which very Reaſon it may be alſo neceſſary to examine into thoſe Properties which ariſe from its Gravity; and whereby it occaſions ſuch prodigious Alterations, in rendering the animal Fluids thinner, and breaking open the ſecretory Paſſages. But what it does by its Gravity, in common with other metalline Subſtances of the like Properties, may be collected from what has been ſaid concerning Chalybeates under the Word *Mars*; which ſee. But here, on that Account, it may be convenient to add, that the ſame Reaſons, which make it ſo powerful a De-obſtruent, give us certain Rules wherein to avoid its Uſe, as in Hecticks, and all Caſes where the Conſtitution is drawn low by too large Evacuations; becauſe Mercurials will keep up the Exceſs of *Impetus* in the Fluids, and that Over-Capacity in the ſecretory Orifices, in which ſuch an Extreme of Conſtitution depends.

To underſtand more diſtinctly the Manner of Operation, and particularly, how a Metal of no remarkable Efficacy is changed into a violent Poiſon, in making it into the common Sublimate, and again into a ſafe Cathartick, in the *Mercurius Dulcis*; it is neceſſary diligently to attend to the Procedure in thoſe Proceſſes. In the firſt the mercurial *Globuli* are, as it were, ſtuck full of ſharp Salts from *Aqua Fortis*, ſo that each Particle comes to be like a Ball ſtuck round with ſharp Needles. The firſt manifeſt Quality, or Alteration made hereby, is the Loſs of Fluidity in the Mercury; for, their rolling about in ſuch an acid *Menſtruum*, until they become full of *Spiculæ*, changes their ſmooth Surfaces into very unequal ones, whereby they will not ſlide over one another, but become permanent and fix'd. In this, therefore, theſe two Circumſtances ſeem to concur, to change thoſe Things into miſchievous Diſpoſitions, which ſeparately had none. The Salt, being ſo drove into the mercurial Globules, gives them Points which they had not before; and the mercurial Globules add to the ſaline Particles a Gravity and Force, which they had not without them: that is, Crude Mercury by its Weight, when in Circulation in the Juices, would ſtrike hard upon whatſoever it met with, but, for want of Angles, or Points, could not vellicate the Parts: and the ſaline Particles, though they had Points, have not Force enough to drive them into the Membranes, ſo as to do much Harm. But when, by this Proceſs, they are join'd together, the Weight of the Mercury drives in the ſaline *Spiculæ* like Wedges, and makes them cut and tear to Pieces whatſoever comes in their Way. So that theſe Cryſtals, or arm'd Balls, as ſo many Knives and Daggers, wound and ſtab the tender Coats of the Stomach and Guts, and all Parts they paſs through, whereby they abrade their natural *Mucus*, tear off the Extremities of the Veſſels, and draw Blood itſelf.

This being the Nature of Sublimate, from ſuch a Contexture of Parts; it will not be difficult to apprehend, how in making it into *Mercurius Dulcis*, the ſame re-ſublim'd with freſh live Mercury, eſpecially, if it be repeated three or four Times, loſes its Corroſiveneſs to that Degree, that it not only becomes a very ſafe, but in many Caſes an excellent Medicine. To this End it is to be conſider'd, that the Action of theſe ſaline *Spiculæ*, depending upon their Gravities and Largeneſs, they muſt neceſſarily, by every ſubſequent Sublimation, be broken into ſmaller and ſmaller Parts; whereby thoſe Points, which were before ſo ſharp, will be almoſt loſt, ſo as not to make Wounds deep enough to be miſchievous and deadly; and, therefore, will only vellicate and twitch the ſenſible Membranes of the Stomach to that Degree, as to excite them to an Excretion of their Contents and glandulous Juices, upwards or downwards, according as the Force of the Irritation is greater or leſs. The few Salts, remaining in theſe mercurial *Globuli*, may, perhaps, be much taken off in their Paſſage through the *Primæ Viæ*, but not all together; ſo that when theſe Globules get into the Blood, by their Motion and Weight, they muſt neceſſarily diſſolve the preternatural Coheſions of all the Liquors; particularly of thoſe which circulate in the ſmalleſt Canals, and are more viſcid and tenacious, making them more fluxile and thin, or of more eaſy Secretion; whereupon all the Glands of the Body are ſet to work, and ſcour'd of their Contents: but the ſalival ones, eſpecially, being many in Number, very large and wide, and the Juice they ſeparate, of a tough and ropy Conſiſtence, ſo that a conſiderable Quantity of it is accumulated, before it is forced out of the Orifices of the Ducts; theſe Effects will be moſt remarkable in them; and a Salivation or Spitting muſt continue ſo long, 'till the active mineral Particles are through theſe and other Paſſages diſcharged quite out of the Body. See *Salivation.*

Mercurials, are all Things prepar'd with Quick-ſilver.

Meridian, is a great Circle paſſing thro' the Poles of the World; it croſſeth the Equinoctial at right Angles, and divideth the Sphere into two equal Parts, one Eaſt, and the other Weſt; and has its Poles in the Eaſt and Weſt Point of the Horizon. 'Tis call'd Meridian, becauſe, when the Sun cometh to the South Part of this Circle, 'tis then *Meridies*, Mid-Day, or High-Noon; and then the Sun hath its greateſt Altitude for that Day, which is, therefore, call'd the Meridian Altitude. The Meridians change, and are various, according to the Longitudes of Places; ſo that they may be ſaid to be infinite in Number, for that all Places from Eaſt to Weſt have their ſeveral Meridians; but there is, or ſhould be, one fix'd, which is call'd the firſt Meridian.

Merus, is apply'd to ſeveral Things in the ſame Senſe as genuine, or unadulterated, as *Merum Vinum*, Neat Wine.

Meſaræum, and
Meſaraica Vaſa, and
Meſenteriaca Vaſa, all ſignify the ſame Thing; from μέσον, *Medium*, the Middle, and ἀραιὸν, *tenue*, ſlender or thin; from the Situation and Fabrick of thoſe Parts: Which ſee further, under

Meſenterium, the Meſentery, from μέσον, *Medium*, the Middle, and ἔντερον, *Inteſtinum*, a Gut, becauſe it is in the Middle of the Guts: For, all the Guts lying in a little Space, they are kept from entangling with one another by the Meſentery, which is a fat Membrane placed in the Middle of the *Abdomen*, almoſt of a circular Figure, with a narrow Production, to which the End of the *Colon* and Beginning of the *Rectum* are ty'd. It is about four Fingers Breadth; and an half in Diameter its Circumference, being full of Plaits and Foldings, is about three Ells in Length. The Inteſtines, which are ty'd like a Border on this Circumference, are about eight or nine Ells long; ſo that to every Inch of the Circumference of the Meſentery, there are three Inches of the Inteſtines faſten'd. The Meſentery itſelf is ſtrongly ty'd to the three firſt *Vertebræ* of the Loins. It is compos'd of three *Laminæ*; the inner, upon which the Glands and Fat lie, and the Veins and Arteries run, is its own proper Membrane; and the other two, which cover each Side of the proper Membrane, come from the *Peritonæum*. Between the two external *Laminæ* of the Meſentery, run the Branches of the *Arteria Meſenterica*, ſuperior and inferior, which bring the Blood to the Inteſtines, and the *Venæ Meſaraicæ*, which, being Branches of the *Portæ*, carry the Blood back to the Liver. Here all the large Branches of both Arteries and Veins, communicating with one another, march directly to the Guts, where, with the Nerves from the *Plexus Meſentericus*, they divide into an infinite Number of ſmall Branches, which ſpread themſelves exceeding finely upon the Coats of the Inteſtines. The *Venæ Lacteæ* and lymphatick Veſſels run likewiſe upon the Meſentery, in which there are alſo ſeveral veſicular Glands, the biggeſt of which, in the Middle of the Meſentery, is call'd *Pancreap Aſeleii*. Theſe Glands receive the *Lympha* and Chyle from the lacteal Veins; which ſee.

Meſogloſſi, are the ſame Muſcles as the *Genioglоſſi*, which ſee.

Meſo-Pleuri, from μέσον, *Medium*, the Middle, and πλευρὰ, *Latus*, the Side, are the ſame as the intercoſtal Muſcles; which ſee.

Metabaſis, and *Metabole*, μετάβασις, μεταβολὴ, ſignifies any Change from one Thing to another, either in the curative Indications, or the Symptoms of a Diſtemper.

Metacarpus, and

Metacarpium, from μετὰ, *poſt*, behind, and καρπὸς, *Manus*, the Hand; is made up of four Bones which anſwer the four Fingers: that which ſuſtains the Fore-finger is the biggeſt and longeſt; they are round and long, a little convex and round towards the Back of the Hand, and concave and plain towards the Palm. They are hollow in the Middle, and full of Marrow; they touch one another only at their Extremities, leaving Spaces in their Middle, in which lie the *Muſculi Interoſſei*. In their upper End there is a *Sinus* which receives the Bones of the Wriſt, and their lower Extremity is round, and is receiv'd into the *Sinus* of the firſt Bones of the Fingers.

Metallum, Metal, is a Mineral, for the moſt Part, of an hard Conſiſtence, cloſe, ductile, and fuſible; it is, by Naturaliſts, diſtinguiſh'd commonly into two Sorts, *viz.* perfect and imperfect. The firſt are either natural, or factitious: the natural are ſuch as, of themſelves, grow in the Earth, without any other Kind of Mixture or Help by Art; the factitious are ſuch as are made by Art. The imperfect are either metalline but in Part, as Antimony; or recrementitious, as Litharge. See *Wilkins*'s *Real Character*, *Woodward*'s *Theory of the Earth*, &c.

Metalline Particles: How they operate in human Bodies, ſee *Mars*.

Metallurgy, ſtands for the Art of working Metals, or ſeparating them from their Ore.

Metamorphoſis, is apply'd by *Harvey*, to the Changes an Animal undergoes, both in its Formation and Growth; and by ſeveral, to the various Shapes ſome Inſects in particular paſs through, as the Silk-Worm, and the like.

Metaptoſis, μετάπτωσις, is ſaid of the Change of one Diſeaſe into another; and is diſtinguiſh'd into a *Diadoche*, when the Tranſlation proves ſalutary, as of congeſted Matter from the nobler Parts to thoſe which it can do no Harm to, but be critically exterminated; and a *Metaſtaſis*, which is a Change for the worſe, or without any ſuch Advantage.

Metaſtaſis, from μετίημι, *transfero*, to change, or tranſlate; ſignifies the Removal of a Humour from one Part to another; which is moſt commonly known in nervous Caſes: and it is ſometimes alſo in groſſer Humours, the refluent Blood taking up digeſted Matter from one Part, and depoſiting it upon another. It is a Species of the *Metaptoſis*, which ſee.

Metatarſus, from μετὰ, *poſt* behind, and ταρσὸς, *Crates*, or *Tarſus*, the Foot. This Part conſiſts of five Bones; that which ſuſtains the great Toe is the thickeſt, and that which ſuſtains the next Toe is the longeſt; the reſt grow each ſhorter than another. They are longer than the Bones of the *Metacarpus*: In other Things they are like them, and they are articulated to the

Toes, as thoſe of the *Metacarpus* are to the Fingers.

Methodica Medicina, ſignifies that Practice which was conducted by Rules, ſuch as were taught by *Galen* and his Followers, in Oppoſition to the Empirical Practice: and therefore,

Methodici, Methodiſts, were thoſe who follow'd ſuch Rules: and

Methodus, Method, was the Means ſuch Rules directed to.

Metropolis, ſignifying properly a chief City, Caſtle, or the like, is, by ſome, apply'd to the Head, as the principal Part of an Animal.

Metroproptoſis, μητροπρόπτωσις, is the falling down of the Womb; and whence a Plaiſter, formerly in the *Diſpenſatory of the College,* againſt ſuch an Inconvenience, had its Name.

Miaſm, from μιαίνω, *inguino,* to infect, is made Uſe of to ſignify ſuch Particles or Atoms, as are ſuppos'd to ariſe from diſtemper'd, putrefying, or poiſonous Bodies, and to affect People at a Diſtance.

Microcoſm, from μίκρος, *parvus,* little, and κοσμος, *Mundus,* the World: Man is thus call'd, in regard to the Excellency and Symmetry of his Make, bearing as great and remarkable Teſtimonies of the Wiſdom of his Maker, as does the whole viſible World, call'd the *Macrocoſm,* or greater World.

Micrography, from μίκρος, *parvus,* little, and γράφω, *ſcribo,* to write; is the Deſcription of the Parts of ſuch very ſmall Objects, as are diſcernible only with a

Microſcope, an optick Inſtrument, contriv'd various Ways to give a large Appearance to the Eye of many Objects, which could not otherwiſe be ſeen.

Micrometer, is a Term invented by *Dolæus,* in his *Encyclopædia,* for an univerſal Spirit in Nature, of which every animal Life had ſome Participation: but it is now chiefly us'd to ſignify an Inſtrument apply'd to Teleſcopes, in order the more exactly to take the angular Meaſure of remote Objects.

Midriff. See *Diaphragm.*

Mictio, or

Mictus, ſignifies Excretion by Urine, from *mingo,* to make Water.

Milliary Glands. See *Cutis.*

Milk. See *Breaſts.*

Minera, is properly a Mine, from whence is dug the Ore of Metals: and from hence, in a figurative Senſe,

Minera Morbi, ſignifies the Seat or Source of any Diſeaſe.

Minerals, are hard Bodies dug out of the Earth or Mine, (whence the Name) being, in part, of a metalline, and, in part, of a ſtony Subſtance; though, in a more lax Signification, ſome include, under it, all that is dug out of the Earth.

Minima Naturalia, is, by ſome, made Uſe of to expreſs the laſt poſſible Diviſions of Matter, and out of which all Bodies are compounded; The ſame as Atoms.

Minorativa, are the leſſer or weaker Purges; ſuch as Manna, Lenitive Electuary, and the like.

Miſerere mei, this is apply'd to ſome Cholicks, where the Pains are ſo exquiſite, as to draw Compaſſion from a By-Stander; the Term importing ſo much.

Miſochymicus; thus ſome were call'd, who profeſſed themſelves Enemies to the Chymiſts, and their enthuſiaſtick Conceits.

Miſy, is a metallick Recrement, not much unlike the *Chalcitis.*

Miva, is an ancient Term for the Form of a Medicine not unlike a thick Syrup, as Marmalade.

Mochlia, μοχλία, is us'd, by the *Greek* Writers, for the Reduction of diſlocated Bones, from the Name of an Inſtrument much us'd therein, call'd by the *Latins*, *Vectis.* Whence alſo *Hypomochlion*, which ſee.

Mithridate, is one of the capital Medicines of the Shops, conſiſting of a great Number of Ingredients, and has its Name from its Inventor, *Mithridates* King of *Pontus.*

Mix'd Body, is us'd to ſignify ſuch,as are compounded of divers Principles, in Diſtinction from thoſe, which the Chymiſts ſuppoſe to be elementary, or conſiſting of one Principle only, as they take Sulphur, Salt, *&c.* to be.

Modiolus, is that Part of the Trepan which cuts the Bone circularly, and is diſtinguiſh'd into male and female, as it hath, or hath not a Point in the Middle, to fix it the better in its Operation. Its Deſcription and Uſe is given by *Scultetus*, *Arm. Chir.* Part 1. *Tab.* 2. *Fig.* 3, 4, 5. and *Tab.* 27. *Fig.* 6.

Moiſture. See *Water.*

Mola, a Mole, is a formleſs Concretion of extravaſated Blood, which grows into a Kind of Fleſh, and moſt commonly happens in the Womb, and is call'd a falſe Conception.

Molares, Grinders, from *Molaris*, a Grind-ſtone. See *Teeth.*

Moments, in the mathematical Acceptation, are ſuch indeterminate and inſtable Parts of Quantity, as are ſuppos'd to be in a perpetual Flux, *i. e.* continually increaſing or decreaſing; and they are look'd upon as the generative Principles of Magnitude; and are, in themſelves, ſuppos'd to have no Magnitude, but to be inceptive only of it. And, becauſe it is the ſame Thing, if, in the Room of theſe Moments, the Velocities of their Increaſes or Decreaſes are made Uſe of, or the finite Quantities proportionable to ſuch Velocities; this Method of proceeding,which conſiders the Motions, Changings, or Fluxions of Quantities, hath come to be call'd *Fluxions.* Moments alſo, in a phyſical Senſe, as they are us'd in reference to the Laws of Motion, ſignify the Quantities of Motion in any moving Body, and ſometimes ſimply the Motion itſelf; and they define it to be the *Vis inſita.* or Power by which any moving Bodies do continually change their Places: And, in comparing the Motions of Bodies, the *Ratio* of theſe Moments is always compounded of the Quantity of Matter, and the Celerity of the moving Body: So that the Moment of any ſuch Body may be conſider'd as a Rectangle under the Quantity of Matter into the Celerity. And, ſince it is certain, that all equal Rectangles have their Sides reciprocally proportionable, therefore, if the Moments of any moving Bodies are equal, the Quantity of Matter in one, to that of the other, will be reciprocally

procally, as the Celerity of the latter to the Celerity of the former: And, on the contrary, if the Quantities of Matter are reciprocally proportionable to the Celerities, the Moments or Quantities of Motion in each will be equal. The Moment alſo of any moving Body may be conſider'd, as the Aggregate or Sum of all the Moments of the Parts of that Body; and, therefore, where the Magnitudes and Number of any Particles are the ſame, and where they are mov'd with the ſame Celerity, there will be the ſame Moments of the Wholes.

Monopetalous, from μόνος, *ſolus*, and πέταλον, *Folium*, a Leaf, is us'd for ſuch Flowers as are form'd out of one Leaf, howſoever they may be ſeemingly cut into many ſmall ones; and theſe fall off together. See *Petala*.

Monoculus, from the firſt Part of the former Derivation, and *Oculus*, an Eye, is us'd for a Perſon having but one Eye, and on the ſame Foundation have we many other compound Terms; as

Monorchis, a Perſon who hath but one Teſticle, and the like.

Mons, is figurately apply'd to many Things by phyſical Writers, and more eſpecially to any prominent fleſhy Parts about the Body; whence *Mons Veneris*, the Hill of *Venus*, is that little Turgeſcency of Fleſh and Fat that riſes juſt above the *Vulva*, in Women.

Monſtrum, is generally apply'd to preternatural Productions amongſt Animals, with Inſtances of which ſome Writers very much abound; as *Schenckius*, *Parey*, and Others.

Morbid, is rather ſaid of an unſound Conſtitution, or one inclinable to Diſeaſes, than of any actually under a Diſtemper.

Morbilli, the Meaſles. This is a critical Eruption in a Fever, well known in the common Practice, and bearing this Name, which is a Diminutive of *Morbus*, becauſe it hath been accounted a Species of ſuch malignant or peſtilential Fevers, to which, comparatively, this is ſo in a much inferior Degree.

Morbus, Diſeaſe; is an unuſual Circulation of Blood, or the circular Motion of Blood augmented or diminiſh'd, either throughout the whole Body, or in ſome Part of it.

Morbus comitialis, is the Epilepſy, thus call'd by the *Romans*, becauſe, when in any of their publick Aſſemblies Perſons fell down with this Diſtemper, they immediately broke up the *Comitia*, which was the common Appellation for ſuch Courts.

Morbus Gallicus, the *French* Diſeaſe. See *Lues*.

Morbus Hiſpanicus, the *Spaniſh* Diſeaſe.

Morbus Indicus, the *Indian* Diſeaſe, *&c.* theſe are ſeveral Names only for the *Lues*, as Intereſt, Power, or Prejudice, has prevail'd in fixing them.

Morphew, is that Freckle or Scurf, which breaks out ſometimes on the Skin, particularly about the Forehead.

Morſelli, and

Morſuli, are antient Names for thoſe Forms of Medicines which were to be chew'd in the Mouth, as a Lozenge: the Word ſignifying a little Mouthful.

Mortariolum, ſignifies a little Mortar, whence ſome thus call the Socket in which a Tooth grows.

Mortiferous, is ſaid of any Thing that forebodes Death, as the *Facies Hippocratica*, or the like.

Mortification, is when in any Part the natural Juices quite loſe their proper Motions, ſo that they fall into a fermentative one, and corrupt and deſtroy the Texture of the Part; from *Mors*, Death, and *facio*, to make.

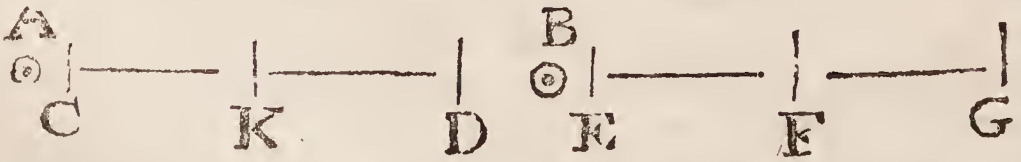
Motion, is a continual and ſucceſſive Mutation or Change of Place. All Motion may be conſider'd either abſolutely or relatively. Abſolute Motion is the Change of Place in any moving Body, and therefore, its Celerity will be meaſur'd by the Quantity of the abſolute Space which the Moveable hath run through. But, relative Motion is a Mutation of the relative or vulgar Place of the moving Body, and ſo hath its Celerity accounted or meaſur'd, by the Quantity of relative Space which the Moveable runs through. All Motion is, of itſelf, rectilinear, or made according to ſtrait Lines, with the ſame conſtant uniform Velocity, if no external Cauſe make any Alteration in its Direction. If a Body moving uniformly, and with the ſame Degree of Velocity, paſs over two Spaces, the Times of the Motions will be as the Spaces. If a Body move through two Spaces in equal Times, thoſe Spaces will be to one another as the Velocities of the Motions. If two Bodies move uniformly, but with unequal Velocities, through the ſame Space, the Times will be as the Velocities. If two Bodies, moving uniformly, go with unequal Velocities, the Spaces, which will be paſs'd over by them in unequal Times, will be to one another in a *Ratio*, compounded of that of the Velocities and that of the Times. If any Bodies are impell'd upwards by different Forces, they will be rais'd to different Heights; which Heights will be to one another as the Squares of their Velocities; and, if Bodies fall from different Altitudes, the Celerities will be to one another as the Squares of ſuch Altitudes.

No Body, naturally, and of it ſelf, can ever move in a curve Line, becauſe all Motion is originally and naturally in itſelf rectilinear; and therefore, it is impoſſible for a Body to move in a Curve, or a Line that is not ſtrait of itſelf; for, then it would continually, and of itſelf, alter the Direction of its Motion, which is contrary to the Properties of Matter, and Laws of Nature; (both which ſee.) And further, as all Effects are proportional to their adequate Cauſes, if any Degree of any Force will produce any Degree of Motion, a double Degree of the ſame Force will produce a double Degree of Motion, a triple a triple, and ſo on to any *Ratio* whatſoever: and this Motion muſt proceed on in the ſame Direction with that of the moving Force, becauſe it is from that only that the Motion ariſes; and Bodies once in Motion cannot change their Direction of themſelves. And, if any Body be already in Motion, the Motion ariſing from a Force impreſſed, if it be in the ſame Direction of the former Motion, it will increaſe in Proportion to its Power; but, if it be impreſſed in a contrary Direction, it deſtroys the former Motion, either totally, or in part, that is, equal to the Force of the Impreſſion. And, when it hath a Direction any Way oblique to that of the former Motion, it is either added to, or ſubſtracted from it, according as a Motion ariſing from a Compoſition of theſe two is determin'd.

The Quantity of any Motion is diſcoverable by the joint Conſideration of the Quantity of Matter in, and the Velocity of, the moving Body; for, the Motion of any Whole is the Sum of the Motion of all its Parts. And conſequently, if a Body be twice as great as another, and be mov'd with an equal Degree of Velocity, the Quantity of Motion is double in the former; and, if the Velocity be alſo double, then the Quantity of the Motion will be quadruple of that of the latter.

The Quantity of Motion which is found by taking either the Sum of Motions made the ſame Way, or the Difference of thoſe which are made contrary Ways, is not at all changed by the Action of Bodies upon one another. For, Action and Re-action are always equal, and, therefore, muſt they needs produce equal Changes in the Motions towards contrary Parts: Wherefore, if the Motions be both according to the ſame Directions, whatſoever is added to the Body to be mov'd, or which is forced to give Place, is ſubducted from the Body which moves, or drives away the other; ſo that the Sum remains the ſame as before: but, if the Bodies meet with contrary Directions, there muſt be an equal Subſtraction of the Motion of each; and conſequently, the Difference of the Motions, made towards the contrary Parts, will remain the ſame. Suppoſe a Body *A* to be thrice as big as *B*, and of the like Figure; let *A* have two Degrees of Velocity, and *B* purſue it with ten Degrees of Velocity: then the Quantity of the Motion of *A* to *B* is as 6 to 10; therefore, the Sum of the Motions of both is 16. Suppoſe then *B*, overtake *A*, and to give it 3, 4, or 5 Degrees of Velocity; it is plain, it muſt loſe juſt as much itſelf: Wherefore *A* will go on with 9, 10, 11 Parts of Velocity; and *B* will follow after with 7, 6, or 5; ſo that the Sum will ſtill be 16: and thus will it always be. This may be more diſtinctly prov'd by theſe two Theorems.

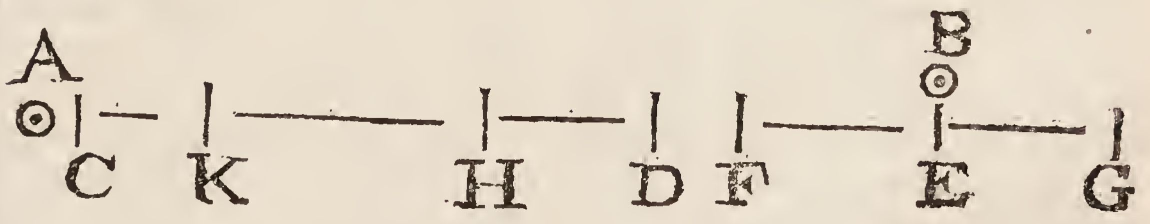
1. If one Body ſtrike againſt another, whether at Reſt, or moving more ſlowly, according to the ſame Direction with the former; then will the Sum of the Motion in both Bodies, towards the ſame Parts, remain the very ſame as before ſuch ſtriking one againſt another.



Let the Body *A* move according to the Direction *C D*, and in its Way ſtrike againſt the Body *B*; which ſuppoſe to be either at Reſt, or moving on more ſlowly than *A*, and according to the ſame Direction with it: I ſay, the Sum of the Motions in both Bodies, towards the ſame Parts, that is, from *C* to *D*, will be the ſame as before. Let *C D* expreſs the Motion of *A* from *C* to *D*;

and if B be in Motion too, let $E F$ expreſs its Motion the ſame Way; then will the Sum of both Motions be expreſſed by $C D + E F$. But, becauſe Action and Re-action are equal, and towards contrary Parts, if $F G$ expreſs the Motion impreſſed on B by the Stroke of A; $D K$, equal to it, muſt expreſs the Motion impreſſed on A by the Stroke of B, with a contrary Direction from D towards C. Wherefore, ſince $D K = F G$, $C K$ will expreſs the Motion of the Body A after the Shock, and $E G$ the Motion of B; and therefore, the Sum of both will be $C K + E G$. But ſince $F G$ is ſuppos'd $= K D$, if $C K$ and $E F$ be added to both, $E G + C K$ muſt be $= C D + E F$. Wherefore, the Sum of the Motions of both is the ſame as the firſt. And, if $F G$ be equal to $C D$, the Points K and C muſt be coincident; that is, $C K$ will be $= 0$, and conſequently, the Body A after the Shock will be quite at Reſt. But, if $F G$ be greater than $C D$, the Point K muſt be found ſomewhere beyond, or to the Left-Hand of C, and the Motion A will become changed towards the contrary Parts, and the Sum of the Motion towards G will be as $E G - C K$: and becauſe $F G = C K$, add to both $E F - C K$, *i. e.* $E C - C K = E F + D K - C K$, *i. e.* $E F + C D$. From whence it is plain, that the Sum of the Motions towards the ſame Parts (which in this Caſe is their Difference towards contrary Parts) continues the ſame after the Shock as before. And after the ſame Manner it will appear, that if any Bodies, moving with the ſame Direction, ſhould ſtrike againſt one another, the Sum of their Motion afterwards will be the ſame as before.

2. If two Bodies move towards each other with exactly contrary Directions, the Sum of their Motions towards the ſame Parts (which is all one as the Difference of them to contrary Parts) will continue the ſame after the Shock, as before it.



Let the Body A move from C towards D, and let $C D$ expreſs its Line of Motion; and let the Body B be moving at the ſame Time with a quite contrary Direction from E to F, and let $E F$ expreſs its Motion. Let $D H$ be ſuppos'd $= E F$, ſo ſhall $C H$, which is the Difference of their Motion, towards contrary Parts, expreſs the Sum of the Motions towards G; then the ſame $C H$ is the Sum of their Motions towards G, as well after the Shock as before: For, after the Shock, ſuppoſe the Motion of B to be changed, and to be now towards G, and let the Line $E G$ repreſent it; wherefore, the Force impreſſed upon B after the Shock, and which carries it towards G, will be equal to the Sum of the

Motions of EF and EG, and conſequently, be expreſſed FG. For, in that right Line the Motion EF towards F is deſtroy'd, and the new one EG towards G produced. But now, ſince the impulſive Force of both Bodies acts equally towards contrary Parts, if DK is made $= FG$, this ſhall repreſent the Force impreſſed upon the Body A, and carry it in a contrary Direction to its former Motion; ſo that if the Line of Motion DK be taken from the Line CD, there will remain CK repreſenting the true Motion of A towards G. But, becauſe $DK = FG$, and $DH = EF$; $DK - DH$, *i. e.* $KH = FG - FE$, *i. e.* EG: And conſequently, ſince $KH = EG$, KH will repreſent the Motion of the Body B after the Shock, but CK repreſents the Motion of A after it, wherefore CA is the Sum of the Motion of both Bodies towards G. If FG had been $= CD$, then the Points K and C would be coincident, and the Motion of A will be quite deſtroy'd, *i. e.* after the Shock A will be perfectly at Reſt, and CA will be $= EG$. But, if FG be greater than CD, the Point K will fall to the Left-Hand of C, and the Motion of the Body A will be from C towards K. But, (becauſe $FG = DK$, and $FE = DH$) $KH = EG$: Wherefore, taking CK from both $CH = EG - CK$, which repreſents the Sum of the Motions made towards the ſame Parts, and their Difference towards contrary ones after the Shock; the Sum of the Motions towards the ſame Parts remains the ſame after, as before the Shock.

In Motions which are accelerated or retarded, the *Impetus* in each Movement is to be eſteem'd that which agrees to the Degree of Celerity then acquir'd. But, when a Motion is made in a Curve, that is to be accounted the Line of Direction of the Motion in each Moment, which is truly the Tangent to the Curve in that Point. And if, when the Motion, being either accelerated or retarded, is made in a curve Line, as in the Vibrations of a Pendulum, the *Impetus* is to be eſtimated in each Point, according to both the Degree of Acceleration, and the Obliquity of the Tangent there.

With regard to the Quantities of Motion, and the Spaces paſſed over by moving Bodies, the following Theorems are demonſtrated.

1. In comparing the Motions of Bodies, if the Quantity of Matter be the ſame, the Movements or Quantities of Motion will always be as the Velocities; and *vice verſa*, if the Moments are as the Velocities, the Quantity of Matter in the moving Bodies is always the ſame.

2. If the Celerities are equal, the Moments or Quantities of Motion will be as the Quantities of Matter; or, if the moving Bodies are homogeneous, as their Magnitudes: And, if the Moments are as the Quantities of Matter, the Velocities will be equal.

3. In comparing the Motions of any Bodies, the *Ratio* of the Moments is compounded of the *Ratio's* of the Quantities of Matter, and the Celerities.

4. In comparing the Motions of any moving Bodies, the *Ratio* of their Celerities is compounded of the *Ratio* of their Moments directly, and of their Quantity of Matter reciprocally.

5. If the Celerities of any moving Bodies are equal, the Spaces paſſed over will be directly as the Times in which the Motions are made; and conſequently, if the Times are as the Spaces, the Celerities muſt be equal.

6. If the Times are equal, the Spaces paſſed through will be as the Velocities; and conſequently, if the Spaces are as the Velocities, the Times will be equal.

7. The Diſtances, or Lengths run, are in a *Ratio*, compounded of the *Ratio* of the Times and Celerities; ſo that the Spaces, or Diſtances mov'd through, may be conſider'd as Rectangles, under the Times and the Celerities. Wherefore, if the Spaces, or Diſtances run, be equal, the Rectangle, under the Celerity and Time of one Moveable, will be equal to that under the Celerity and Time of the other: And therefore, becauſe equal Rectangles, with unequal Sides, have their Sides reciprocally proportionable, as Celerity is to Celerity, ſo reciprocally ſhall Time be to Time; and conſequently, when the Spaces are equal, the Times will be reciprocally as their Velocities.

8. The *Ratio* of the Times is always compounded of the *Ratio* of the Spaces paſſed over directly, and of the Celerities reciprocally.

Theſe two laſt Theorems are otherwiſe thus expreſſed.

When the Celerity is given, the Space paſſed through will be as the Time, and the Time being given, the Space as the Celerity; wherefore, if neither be given, the Space will be as the Celerity and Time conjunctly.

When the Celerity is given, the Time is directly as the Space mov'd through; and the Space being given, the Time is reciprocally as the Celerity: Wherefore, if neither be given, the Time is as the Space directly, and as the Celerity reciprocally.

Hence it is plain, that the Motions of all Bodies are as the Rectangles under the Velocities, and the Quantities of Matter; where the Matter and Celerity of Motion being given, the Moment or Quantity of Motion is given: And, if the Moment and Matter be given, the Celerity is given, by dividing the Moment by the Quantity of Matter. As for Example; let the Quantity of Matter be a, the Celerity c, and the Moment m, then will $ca=m$, and $c=\frac{m}{a}$ and $a=\frac{m}{c}$. Alſo, ſince the Space paſſed over is always proportionable to the Rectangle under the Velocity and the Time; let the Space be $=S$, the Time $=T$, and the Celerity, as before, $=C$. Then will $S=CT$, and $C=\frac{S}{T}$ and $T=\frac{S}{C}$. And, ſince alſo $m=ac$, m will be $=\frac{aS}{T}$:

Or, if T be given, $m = a\ S$. Hence alſo may it be concluded, that if two Bodies are mov'd with equal Velocities, the Moments will be as the Quantities of Matter in each; and, *vice verſa*, the Quantity of Matter as the Moments; wherefore, if Bodies of equal Bulk are found to have unequal Moments, or Quantities of Motion, the Quantities of Matter muſt be unequal; and conſequently, that, which hath the leaſt Moment, muſt have more of Pores or Vacuities interſpers'd than the other. For Inſtance: If two Globes, one of Lead, and the other of Cork, having equal Bulks, are mov'd with equal Swiftneſs; ſince the Quantity of Motion in the former, or its Force to move other Bodies, will be much greater than in the latter; it is plain there muſt be many more Pores or Vacuities in this, than in that.

Motion Perpetual. This hath exercis'd the mechanical Wits for many Ages, but is a Contradiction to the Laws of Nature. See *Nature, Laws of.*

Motion Voluntary. See *Muſcular Motion.*

Motrix. See *Vis Motrix.*

Motorii; the third Pair of Nerves which paſs to the Eye are thus call'd, from their Influence upon its Motions.

Mouth. This is divided, or made up of the Lips, the Gums, the Palate, the *Uvula*, and the ſurrounding Glands. The Lips are made up of ſeveral Muſcles; their Uſe is to ſhut the Mouth, and to articulate the Voice. The Gums, ſee under *Gingivæ*. The Palate, or Root of the Mouth, is cover'd with a pretty thick Membrane, which is continu'd to the Tonſils; upon it there are a great Number of little Glands, whoſe excretory Ducts, piercing it like a Sieve, diſcharge a Liquor for the moiſtening and diſſolving the Aliments. It is an Error to think the Palate taſtes; for, by it, it is impoſſible to diſtinguiſh the moſt acrid Subſtances. The *Uvula* is a Re-duplicature or Production of the internal Membrane of the Mouth; its Subſtance is very lax, and it has a Number of ſuch Glands as in the Palate; it is ſomewhat long, of a Conick Figure; it hangs from the Root of the Mouth, at the Extremity of the Paſſage which comes from the Noſe, above the *Larynx*, between the Tonſils. It is mov'd by two Pair of Muſcles, the *Pteryogoſtaphilinus Externus*, and the *Pteryogoſtaphilinus Internus*; which ſee under thoſe Names.

The Glands, which are the Sources of the Spittle, that diſcharges itſelf into the Mouth, are in great Number; of which the principal are the *Parotides*, one on each Side, ſituated under the Ear, above the *Maſſeter* Muſcle: They are of the conglomerate Sort, being made up of a great Number of ſmaller Glands, each of which ſends out a ſmall excretory Duct, and they all unite, and form one Channel, call'd *Ductus Salivalis ſuperior*; which, running over the Cheek, pierces the *Buccinator*, and opens in the Mouth. When the *Maſſeter* acteth in Maſtication, it preſſeth the *Saliva* into the Mouth. The *Maxillares*, which are ſituate within the Under-Jaw, one on each Side, are alſo of the conglomerate Sort; the excretory Pipes of their ſmall Glands unite, and form two Ducts, Which both together open under the Tip of the Tongue, on the Inſide of the *Dentes inciſivi,* where they have each a ſmall *Papilla* at their Orifice; when the Muſcles of the Tongue or lower Jaw act, they compreſs theſe Glands. The Sublinguals are one on each Side of the Tongue; they have, ſometimes, two excretory Ducts, as the former, form'd by the Union of that of each ſmall Gland; they run on each Side of the Tongue, near its Tip, where they open into the Mouth, juſt by the former, with which ſometimes they join. Sometimes theſe are wanting, and then each little Gland has a Duct, which opens under the Tongue: When the *Mylohyoidæus* acteth, it compreſſes them. The *Tonſillæ,* or Almonds, are two round Glands placed on the Sides of the Baſis of the Tongue, under the common Membrane of the *Fauces,* with which they are cover'd; each of them hath a large oval *Sinus,* which opens into the *Fauces,* and in it there are a great Number of leſſer ones, which diſcharge themſelves thro' the great *Sinus,* of a mucous and ſlippery Matter, into the *Fauces, Larynx,* and *OEſophagus,* for the moiſtening and lubricating thoſe Parts. When the Muſcles of the *OEſophagus* act, they compreſs the *Tonſillæ.* Beſides theſe, there are a great Number of little Glands ſpread upon the Cheeks and Lips, call'd *Glandulæ Buccales* and *Labiales,* whoſe excretory Channels open into the Mouth, and all of them ſeparate a *Saliva* or Spittle, which conduces to the Diſſolution of the Aliments. The Tongue is connected in the Mouth to the *Os Hyoides,* and to the *Larynx,* by a membranous Ligament, which is in the Middle of its lower Side. Sometimes this Ligament is continu'd to the Tip of the Tongue, and then it hindereth Children from Sucking; therefore, in ſuch Caſes, it ſhould be cut. See *Lingua.*

Mucilaginous Glands. Theſe are very numerous in the Joints, and firſt taken Notice of to any Purpoſe by Dr. *Clopton Havers,* in his *Oſteology.* He ſaith, there are two Sorts; ſome are ſmall, and in a Manner, milliary Glands, being Glandules placed all upon the ſame Surface of the Membranes which lie over the Articulations. The other Sort are conglomerated, or many Glandules collected and planted one upon another, ſo as to make a Bulk, and appear conſpicuouſly; and theſe are conſiderable Glands. In ſome of the Joints there are ſeveral of them; in others there is a ſingle Gland. For the Structure of theſe large Glands, they conſiſt of ſmall Veſicles, which are not gather'd together into ſeveral Lobes, or Bags of Glandules, but are diſpos'd upon ſeveral Membranes lying over one another, of which Membranes there are ſeveral in every one of theſe Glands, which appear evidently in them who are hydropical. They have their Blood-Veſſels as other Glands, but their Veins have a particular Texture in their Courſe, for retarding the Return of the Blood from the Glands, that the mucilaginous Liquor, which is not ſeparated with the greateſt Expedition, may have Time to be ſeparated, as is the Contrivance where-ever a thick Fluid is to be ſecern'd. (See *Animal Secretion.*) The large mucilaginous Glands are variouſly ſituated; ſome in a

Sinus form'd in the Joint; others ſtand near, or over-againſt the Interſtice, between the articulated Bones: but, in general, they are ſo placed, as to be ſqueez'd gently, and lightly preſs'd in the Inflexion or Extenſion of the Joint, ſo as to ſeparate a Quantity of Mucilage proportionate to the Motion of the Part, and the preſent Occaſion, without any Injury. The Deſign of all thoſe Glands is to ſeparate a mucilaginous Kind of Liquor, that ſerves principally to lubricate the Joints, to make them ſlippery. It ſerves likewiſe to preſerve the Ends of the articulated Bones from Attrition and Heating. But all this it does in Conjunction with the medullary Oil, (which ſee) with which together is made a Compoſition admirably well fitted for thoſe Ends; for, the Mucilage adds to the Lubricity of the Oil, and the Oil preſerves the Mucilage from growing too thick and viſcous. The Doctor obſerves the ſame Glands to lie between the Muſcles and Tendons, and ſuppoſes, that there is the ſame Mixture of an oily and mucilaginous Subſtance; the one being that Fat which is found between the Muſcles, and is ſupply'd by the *Glandulæ Adipoſæ*; and the other being ſeparated by the mucilaginous Glandules, of which the common Membrane of the Muſcles is every-where full. This Mixture in the Interſtices of the Muſcles lubricates them and their Tendons, and preſerves them from ſhrinking and growing rigid and dry. This Term, *Mucilage*, ſeems to be made of *Mucus*, Slime, and *ago*, to make; the Thing expreſs'd thereby being of a ſlimy Nature.

Moxa, ſignifies a certain actual Cauſtic, recommended chiefly in Fits of the Gout; though *Dolæus* would alſo have it apply'd in the Apoplexy, Epilepſy, *Mania*, and convulſive Aſthma. The Thing, of itſelf, is no more than a dry, light, downy, vegetable Subſtance, obtain'd from a certain Plant, not unlike our common Mugwort, which, being apply'd to the Skin, is there ſet on fire, and ſuffer'd to act as a Cauſtic. *Mich. Bern. Valentin* has given the Hiſtory of *Moxa*, in a Letter to *M. Andr. Cleier.* 'Tis ſaid to come principally from *China* and *Japan*, and uſually ſold very dear.

Mucro, ſignifies ſtrictly the Point of a Spear; and therefore, figuratively,

Mucro Cordis, is the pointed End of the Heart. And,

Mucronata Cartilago, and

Mucronatum Os, is the ſame as the *Cartilago Enſiformis*, (which ſee) becauſe it ends in a Point.

Mucus, is moſt properly us'd for that which flows from the papillary Proceſſes, through the *Os Cribriforme* into the Noſtrils; but it is alſo us'd for any ſlimy Liquor or Moiſture, as that which daubs over, and guards the Bowels, and all the chief Paſſages in the Body: And it is ſeparated by the mucilaginous Glands, which ſee above.

Mugitus, ſtrictly is the Lowing of Cattle, but by ſome phyſical Authors, and particularly *Bellini*, is us'd to expreſs that inarticulate Sound of the Voice which Perſons utter in Apoplexies, and ſuch like Diſtempers.

Muliebria, of, or belonging to Women, is ſometimes us'd to ſignify the Privities, or ſo much as is call'd *Cunnus.*

Mulſum, or *Mulſe,* is a Liquor made with Honey and Water, as *Hydromel.*

Multangular, from *multus,* many, and *Angulus,* a Corner; is any Figure or Body, which has many Angles, or pointed Corners.

Mundiſy, and,

Mundification, from *mundus,* clean, and *facio,* to make; ſignifies the cleanſing any Body, as from Droſs, or Matter of inferior Account to what is to be cleans'd.

Muriatick, is whatſoever partakes of the Taſte, or Nature of Brine, or any ſuch like Pickles, from *Muria,* Brine or Pickle.

Muſcle. A Muſcle is a Bundle of thin and parallel Plates of fleſhy Threads or Fibres, inclos'd by one common Membrane. All the Fibres of the ſame Plate are parallel to one another, and ty'd together at extremely little Diſtances by ſhort and tranſverſe Fibres. The fleſhy Fibres are compos'd of other ſmaller Fibres, inclos'd likewiſe by a common Membrane. Each leſſer Fibre conſiſts of very ſmall Veſicles, or Bladders, into which we ſuppoſe the Nerves, Veins, and Arteries to open; for, every Muſcle receives Branches of all thoſe Veſſels, which muſt be diſtributed to every Fibre. The two Ends of each Muſcle, or the Extremities of the Fibres, are, in the Limbs of Animals, faſten'd to two Bones, the one moveable, the other fix'd; and therefore, when the Muſcles contract, they draw the moveable Bone according to the Direction of their Fibres. When the Muſcles contract in Length, they ſwell in Thickneſs, as may be perceiv'd by laying the Hand upon the *Maſſeter,* a Muſcle of the lower Jaw, and preſſing the Grinders together: But this Power of contracting or ſwelling is loſt, when either the Artery, or Nerve of the Muſcle is cut or ty'd; and therefore, we conclude, that the Contraction, Swelling, or Motion of the Muſcles, is perform'd by the Blood and animal Spirits diſtending the Veſicles, or Cavities of the Fibres. This Diſtenſion of the Veſicles of the Fibres muſt be, either by their being fill'd with a greater Quantity of Blood and animal Spirits, than they were before the Contraction, or the Blood and Spirits mixing muſt rarefy, and fill up a greater Space.

That the Veſicles of the Fibres are not diſtended purely by the Quantity of Blood and Spirits, will appear, if we conſider, that were the Veſicles diſtended only by the Quantity of Fluids contain'd in them, Nature (whoſe Operations are always the moſt ſimple) had only us'd one Fluid, and not two; for, in the Works of Nature we no-where find two neceſſary Cauſes where one could have produced the ſame Effect: Now, how ſmall ſoever we ſuppoſe the Quantity of Fluid brought by the Nerves to the Muſcles, that alone might have contracted the Fibres, (if a Quantity only of a Fluid had been requiſite) by diminiſhing the Diameters of the Cavities or Veſicles of the Fibres, as will appear by what follows. And, as it is evident, that the Reaſon, why the Spirits alone do not diſtend the Veſicles, is not that there is not a ſufficient Quantity for that Purpoſe; ſo it will likewiſe appear, that if there had not been a ſufficient Quantity of the nervous Fluid, yet the Quantity of Blood could have given no Aſſiſtance in the Diſtenſion of the Veſicles: For, if the Veſicles contain a greater Quantity of Blood, when the Muſcles contract, than they do, when the Muſcles are relax'd, this Augmentation muſt proceed, either from the Blood's being ſtopp'd in the Vein, or it muſt move ſuddenly with a greater Velocity through the Artery into the Cavities of the Fibres. If the Blood is ſtopp'd in the Vein, it muſt be by the Contraction of its Coats, or by ſome external Preſſure upon them. If, by the Contraction of the Fibres which compoſe the Coats of the Vein, the ſame Difficulty remains to be explain'd; for, whatever is the Cauſe of the Contraction of the Fibres of a Vein, will likewiſe ſerve to contract the Fibres of a Muſcle. If the Blood is ſtopp'd in the Veins, by a Preſſure upon their Coats, it muſt be by the ſwelling of the Artery or muſcular Fibres. If the Artery ſwells, and preſſes on the Vein, the Circulation of the Blood muſt be entirely ſtopp'd; for, that Preſſure will conſtantly increaſe, the Blood being ſtill accumulated in the Artery; and therefore, it will for ever hinder all Paſſage through the Vein. If it be ſaid, that the Blood, moving ſometimes with a greater Velocity through the Artery into the Cells or Veſicles of the Fibres, will diſtend them; this greater Velocity muſt proceed from the Force of the Heart, from which alone the Blood derives all its Motion. Now, if the Heart acts with a greater Force, it will increaſe the Velocity of the Blood univerſally throughout the whole Body, and each Muſcle and its Antagoniſt will be thereby equally contracted, and conſequently, neither will contract. And therefore, ſince both the Blood and Fluid of the Nerves are neceſſary to the Contraction of the Muſcles, and ſeeing the Contraction is not perform'd by the Quantity of theſe Fluids, it remains only, that, by their Mixture, they rarefy, and diſtend the Veſicles.

Now, for the explaining of this Rarefaction of the Blood and Spirits in the Veſicles of the muſcular Fibres, let us ſuppoſe a ſmall Globule of Air between the Particles of a Fluid, and, that the Particles have a ſtrong attractive Force, by which they endeavour to come together; they, preſſing every Way equally on the Globule of the Air, will hinder it from eſcaping any Way from between them; but the Force by which they endeavour to come together, being prodigiouſly greater than the Force of their Gravity, they will, by this Force, produce a very conſiderable Condenſation of the Globule of Air that lies between them: and the Force of Elaſticity being proportional always to its Condenſation, the Force by which this airy Globule will endeavour to expand itſelf, will likewiſe be vaſtly great; and conſequently, if, by any Means, this *Niſus* of the Particles of the Fluid, to come together, ſhould be taken off, the Air between them would expand itſelf with a very conſiderable Force. Now, if, upon the mixing of another Fluid, the Particles of the firſt Fluid ſhould be more ſtrongly attracted to the Particles of this other Fluid, than they were before to one another, then would their *Niſus* to one another ceaſe, and they would give the Globule of Air that is between them Liberty immediately to expand itſelf, and the whole Fluid would take up a greater Space than it did before. But, when the Particles of the two Fluids come to be united together, they will again incloſe the Globule of Air that lies between them, and, by their mutual Attraction, ſoon bring it to its former State of Condenſation.

Now, that the Blood contains a great Number of Globules of Air, is evident, from the Quantity it yields in the Air-Pump: and, that the Particles of the Blood have a ſtrong attractive Force, is likewiſe plain, from what has been ſaid in ſeveral Places. By this Attraction of the Particles, the Globules of the Blood are form'd; and, in viewing the Circulation of the Blood with a Microſcope, it may be obſerv'd, that where the Diameter of the Canal has been leſs than the Diameter of a Globule of Blood, the Globule would be preſs'd into a ſpheroidical Form; but, when it came into a wider Part of the Canal again, it would immediately re-aſſume its former Figure: which is probably owing to a ſmaller Globule of Air inclos'd within, and expanding itſelf equally every Way, when the Sides of its circumambient Shell of Blood are not longer preſs'd by the Sides of the Canal.

Theſe Globules of Blood continually circulating through the Veſicles of the Fibres (which are, probably, capable of containing only one Globule at a Time) meet with the animal Spirits, which drop from the Nerves. Now, the Minuteneſs of the Glands of the Brain, and the Smallneſs of the Fibres of the Nerves, plainly ſhew, that the animal Spirits are a Fluid, conſiſting of the ſmalleſt Particles of any in the Body; and therefore, their attractive Force muſt be the greateſt of all the Particles in the Blood, as is evident, from what Sir *Iſaac Newton* has calculated about the Rays of Light: and conſequently, the animal Spirits meeting with the Globules of the Blood in the Veſicles of the Fibres, and ſurrounding them, muſt attract the Particles of which they are compos'd, more ſtrongly than they do another; and conſequently, therefore, their *Niſus* to one another ceaſing, the condens'd Globule of Air will expand itſelf with a very conſiderable Force, whereby each Veſicle of the Fibre will be diſtended, and conſequently, the Fibre ſhorten'd, *i. e.* the whole Muſcle will be contracted. But, when the Particles of the Globule of Blood are mix'd with the nervous Fluid, they will both together incloſe the Globule of Air again, and compreſs it into as ſmall a Space as it was before; and thus the Contraction of the Muſcle muſt immediately ceaſe, unleſs freſh Blood and Spirits, ſtill ſucceeding one another, continue the Inflation of the Veſicles. But, when a Muſcle has been ſtrongly contracted for ſome Time, the

Quantity of Spirits ſpent being more than can be ſecern'd in the ſame Space of Time by the Glands which ſupply its Nerves, the Inflation of the Veſicles muſt fall, and the Muſcle grow feeble and weak; whereas, the tonick Motion of the Muſcles, being perform'd by the Spirits protruded only by the Quantity laſt ſecern'd in the Glands, will conſtantly continue without any Wearineſs.

After this Manner the Veſicles may be conceiv'd to be diſtended without any Ebullition or Effervefcence, and their Diſtenſion to ceaſe, without any Precipitation, or flying off of the aerial Globules through the Pores of the Muſcles.

But, let us next come to ſhew the Mechaniſm of the Fibres, or how excellently and wiſely they are contriv'd for Contraction. It is a known Experiment, that a Bladder, when it is blown up, and diſtended, as to its Capacity, but contracted, as to its Length, will, by the Force of Contraction, raiſe a Weight to ſome determin'd Height. And, if two Bladders join'd together, and communicating with one another, were blown up, the Weight would be rais'd by Inflation twice the Space that one alone would do it; becauſe, I ſuppoſe, that both Bladders contract equally, and conſequently, the Contraction of both together will be double the Contraction of either. Three Bladders thus join'd, and diſtended, will raiſe the Weight to triple the Height, and four to quadruple; ſo that, if there were a String of Bladders join'd together, of equal Bulk, and like Figures, the Space, through which the Weight would riſe, would be proportional to the Number of Bladders, or, which is the ſame Thing, to the Length of the String.

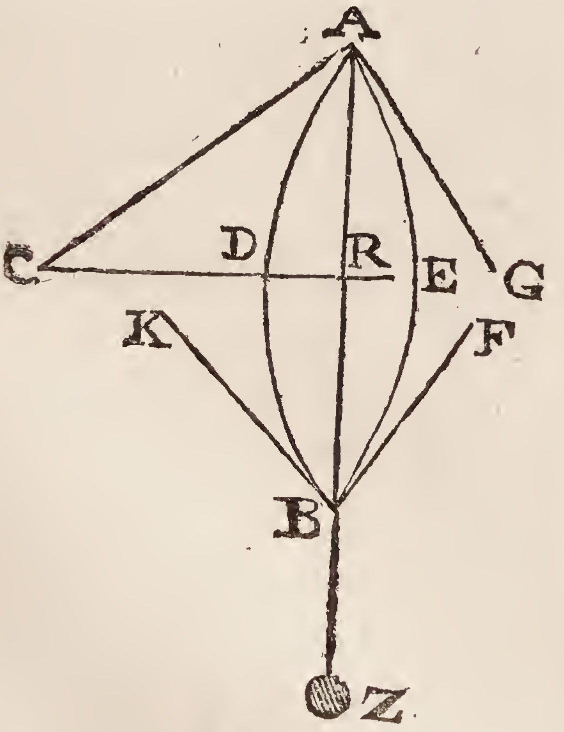
Each Fibre of a Muſcle, conſiſting of a Multitude of ſmall Veſicles, reſembles a String of Bladders; and therefore, the Contraction of the Muſcle is always proportional to the Length of its Fibres. And, ſeeing the greateſt Contraction of the Fibres is always leſs than $\frac{1}{3}$ of their Length, (as ſhall hereafter be demonſtrated) there was a Neceſſity that the Inſertions of the Muſcles ſhould be near to the Joints, not only to increaſe the Velocity of the Parts mov'd, but likewiſe, that might deſcribe the greater Arches round the Centres of their Motion. And hence it is, that thoſe Parts, which deſcribe the greateſt Arches, are mov'd by the longeſt Muſcle; as the Hand round the Elbow, which is bent by the *Biceps* ariſing from the *Scapula*; and the Foot round the Knee, which is bent by the Muſcles, whoſe Originations are as far diſtant as the *Iſchium*. If theſe Joints had been mov'd by ſhort Muſcles, inſerted at each End into the Extremities of the articulated Bones, the Arm and Leg had mov'd but a little Way, and the Arches, the Hand and Foot had deſcrib'd about theſe Joints, had been to the Arches they deſcribe now, as the Length of the ſhort Muſcles had been to the Length of the Muſcles they have now. On the contrary, where the Joints have but a ſmall Motion, there the Muſcles are ſhort. Thus we find, that the Fingers are pull'd ſide-ways by the *Interoſſei*; the Thigh is drawn outwards, and obliquely, by the *Quadragemini* and *Obturatores*, which are all ſhort Muſcles; and moſt of the Muſcles of the *Vertebræ* run between one *Vertebra* and the next. From hence it is evident, that the Originations and Inſertions of the Muſcles are every-where the beſt that could be contriv'd.

The Veſicles, of which the Fibres conſiſt, are extremely ſmall: For, though one large Bladder may raiſe a Weight as high as ſeveral ſmall ones; yet, the Quantity of elaſtick Fluid us'd in the Inflation, together with the Swelling of the large Bladder, will be much greater, than when a Weight is rais'd by a String of ſmall ones. For, ſuppoſe two Bladders of ſimilar Figures, but the Diameter of the one triple to the Diameter of the other, then will the one require twenty-ſeven Times the Quantity of elaſtick Fluid to expand it that the other does, and it will ſwell to twenty-ſeven Times the Space; and yet, three of the leſſer Bladders join'd together will raiſe the Weight to the ſame Height that the bigger one does, but with nine Times leſs Expence of elaſtick Fluid, and they will take up but one ninth Part of the Space. By diminiſhing, therefore, the Bigneſs of the Veſicles, and increaſing their Number, the Force requir'd to diſtend the Veſicles, and the Diſtenſion itſelf, may be diminiſh'd in any given Proportion, and come at laſt to be inſenſible. Suppoſe a Bladder of a determin'd Bigneſs can raiſe a Weight a Foot, an hundred Bladders, whoſe Diameters are each $\frac{1}{100}$ Part of the former, being blown up, will raiſe the Weight to the ſame Height; but, the Force of Inflation, and the Swelling of all put together, will be ten thouſand Times leſs than in the large one.

If a Weight of a determin'd Bigneſs can be rais'd to a certain Height by one Bladder, or one String of Bladders, to which the Weight is ty'd, twice that Weight may be rais'd by two ſuch Bladders, or Strings of Bladders, and triple that Weight by three ſuch Strings: and conſequently, the Weight a Muſcle can raiſe will be always as the Number of its Fibres, that is, as its Thickneſs, ſuppoſing the Diſtenſion of the Veſicles equal. And the abſolute Strength of one Muſcle is, to the abſolute Strength of another, as their Bulks.

It is to be obſerv'd, that, in determining both the Contraction, and Strength of a Muſcle, no Regard is to be had to the Tendons; becauſe, in them we obſerve no Inflation, and we find Nature no-where making Uſe of a Tendon, but where either there was not Room for the Inſertion of ſo many fleſhy Fibres, or where it was neceſſary the Muſcle ſhould draw from ſuch a Point.

In the next Place, let us determine the Force of the elaſtick Fluid neceſſary to diſtend the Veſicles, ſo as to raiſe to a determin'd Height any given Weight. But, before this can be done, the Figure that each Veſicle will be form'd into, by the Force of the elaſtick Fluid diſtending it, muſt be found out: and therefore, let us conceive each Veſicle to conſiſt of an infinite Number of Threads, whoſe Ends are faſten'd by tranſverſe Ligaments; and from hence it follows, that, if a diſtended Veſicle were cut with a Plane through its Axis, the Curve of the Section will be the ſame with that of a Thread, whoſe two Ends are faſten'd, and the whole preſs'd by an elaſtick Fluid. And becauſe, elaſtick Fluids endeavour to expand themſelves every Way, and all Fluids preſs perpendicularly upon each Obſtacle, it is evident, that the Thread muſt be every-where equally and perpendicularly preſſed; and therefore, its Flection, or Curvature, muſt be every-where equal and ſimilar, and conſequently, the Thread muſt be form'd into a circular Arch. Hence it follows, that the whole Secretion of the Veſicle conſiſts of two equal and ſimilar Arches, whoſe common Subtenſe is the Axis of the Veſicle. Suppoſe now AEB and ADB to be the two circular Arches, C the Centre of the Arch AEB, AG and BF Tangents in the Points A and B, Z the Reſiſtance to be rais'd; the Angle CAG or CAE is equal to a right Angle $=$ to $CAR + ACR$, and therefore, the Angle $ACR = GAR$, or $EAR = EBR = DBR$; and therefore, the Arch EA, or EB is the Meaſure of the Angle EAR or EBR, and the Space through which the Reſiſtance Z is rais'd equal to the Difference between the Arch AEB and its Chord ARB, or equal to twice the Difference of the Arch AE and its Sine AR; which having the Arch AE, or the Angle EAR given in Degrees and Minutes, may be eaſily calculated. But, to do this, the Length of the Radius AC muſt be determin'd in ſuch Parts, whereof 100000 make up the Arch AE, which is done thus: The Degrees of a circular Arch, whoſe Length is equal to the Radius of the Circle, is 57° 295; and therefore, the Degrees in the Arch AE is to 57° 295, the Length of the Radius expreſs'd in Degrees, as 100000, the Parts of which the Arch AE conſiſts, to the Radius expreſs'd in the ſame Parts, which will, therefore, be given. And again, as the Tabular Radius is to the Tabular Sine of the Arch AE, ſo is the Radius AC (already found) to the Sine AR, which will likewiſe be found. This being ſubſtracted from AE, and the Remainder doubled, is the Elevation of the Weight Z.



Thus, for Inſtance, ſuppoſe the Arch AE, or the Angle EBR, to be 30 Minutes, ſay as 30′, or half a Degree, that is $\frac{5}{10}$, is to 57° 295, ſo is 100000, the Length of the Arch AE, to the Length of the Radius AC, which will be found to be 11459000. And again, as 100000 is to 872, the

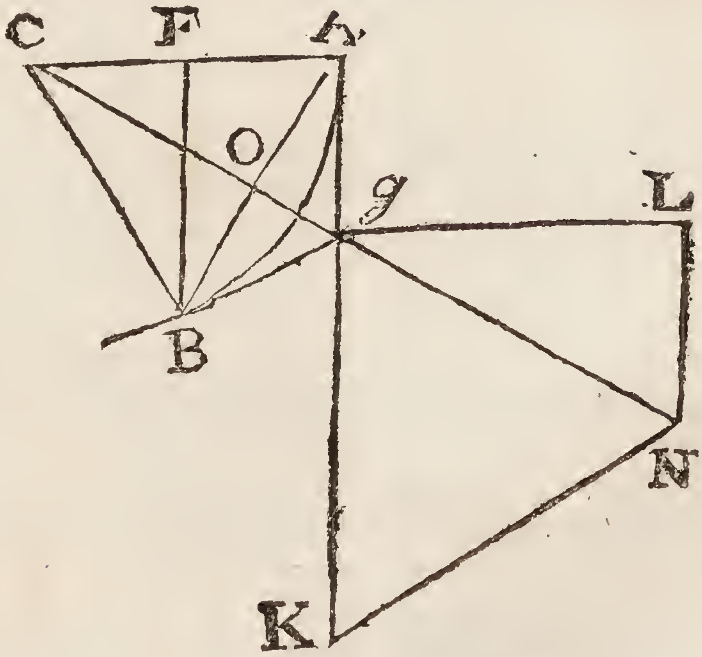
Sine of 30′, ſo is 11459000 to *A R*, which is, therefore, 99906; which, ſubſtracted from *A E*, and the Remainder doubled, gives 186, the Sublevation of the Weight *Z*, in ſuch Parts whereof *A E* is 100000.

The Tenſion of the Fibre, or Force wherewith it is ſtretch'd by the Reſiſtance *Z*, may be thus determin'd: The Tenſion of the Fibre, or the Force ſuſtaining the Weight in the Point *B*, is the ſame, as if the Weight *Z* were ſuſpended by two Threads touching the Arches in the Point *B*; and, in that Caſe, the Tenſion of the Thread *B F* is to the Weight *Z* as the Sine of the Angle *F B R*, or *E B R*, is to the Sine of the Angle *F B H*, or *E B D*; and conſequently, the Tenſion, or Firmneſs of the Thread will be

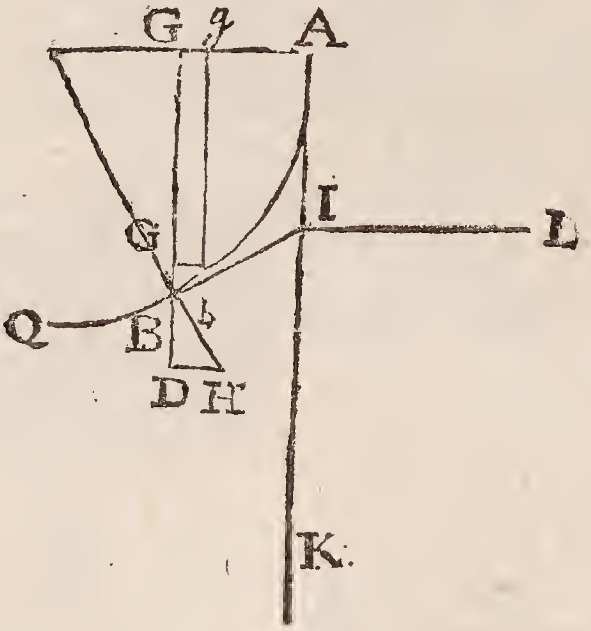
$$= \frac{Z \times Sine\ EBR}{Sine\ EBD}.$$

Now, call the abſolute Force of Expanſion that the elaſtick Fluid muſt have, to raiſe a given Weight to a determin'd Height, *n*; the Preſſure on any Part of the Thread will be as the Force of Expanſion of the Fluid, and the Portion conjunctly: For, if the the Portions of the Thread be taken equal, the Preſſures on them will be as the Force of Expanſion, or the Elaſticity. And, if the Force of Expanſion be the ſame, the Preſſure is as the Portions on which it preſſes; and therefore, univerſally it is as the Force of Expanſion and the Portion jointly, or as the Product of the two.

Let *A B* repreſent the circular Thread, *B b* an indefinite ſmall Portion of the ſame, and the Preſſure on *B b* will be *n* x *B b*, which ſuppoſe equal to *B H*: The Preſſure *B H* can be reſolv'd into two Forces, one whereof is as *D H* acting horizontally, or, according to the Direction *DH*; and the other as *B D* acting vertically, or, according to the vertical Direction *B D*; and, becauſe of the equi-angular Triangles *G B b* and



and BDH. $BG : DH :: Bb : BH :: Bb : n \times Bb$ ($:: 1 : n$) $:: Gb : DB$; therefore $DH = n\,BG$, and $BD = n\,Gb$; and therefore, the Sum of all the horizontal Forces will be equal to n multiply'd by all the BG's, that is, n multiply'd by $BF = n \times BF$, and the Sum of all the vertical Forces is equal to n multiply'd by all the Gb's, that is, $= n\,AF$. Now, it is plain, that the Tenſion of the Fibre, in the Points A and B, is the ſame with the Tenſion of two Threads, Tangents in the Points A and B (where they are ſuppos'd to be faſten'd) that are drawn at their Point of Concourſe I, by all the horizontal Forces, according to the Direction IL, and by all the vertical Forces, according to the Direction IK; and therefore, to determine the Tenſion of the Fibre, the Tenſion



of the Threads that are pull'd at the Point I by a Force $n\,FB$ according to the Direction IL, and by a Force $n\,FA$ muſt be determin'd according to the Direction IK. Take $IL = n\,FB$ and LN perpendicular to it $= n\,FA$ and the two Forces IL and LN will be equipollent to a third Force, as IN, acting according to the Direction IN; and therefore, the Threads will be ſtretch'd to the ſame Degree by the Force IN, that they would be by the two Forces IL and LN: and becauſe IL (nBF) $: LN$ (nFA) $:: BF : FA$, and the Angles at L and F equal (by the 6th of the 6th) the Triangles BFA and ILN will be equi-angular, and the Side IN will be equal to $n\,BA$, and the Angle $FAB = LNI =$ (by 29. 1.) AIO; add the Angle IAO to both, and the right Angle FAI will be equal to $AIO + IAO =$ (32. 1.) AOC. And therefore, becauſe $AI = IB$, and the Angles at A and B equal, the Angle AIO muſt be $= BIO$, and $AO = OB$; the Line, therefore, NO cutting the Line AB equally, and at right Angles, muſt paſs through the Centre. Through N draw NK parallel to BI, meeting with AI produced in the Point K; then the Forces by which the Threads are ſtretch'd will be as IK, and NK, the Angle $KIN = AIO = FAB = BIO = INK$. The Triangle, therefore, KIN is an Iſoſceles Triangle, and equi-angular to the Triangle ABC, and $AB : AC :: NI : IK :: nAB : nAC$; and therefore, IK, or KN will be equal to $n \times AC$, that is, the Forces, by which the Threads are ſtretch'd, will be equal to the Radius of the Circle multiply'd by n.

Hence the Tenſion of the Fibre in the Points A and B, and ſo in all other of its Parts, is the ſame, and equal to the abſolute Force of Elaſticity multiply'd into the Radius of the Circle: but, the Tenſion of the Fibre was found before to be $\frac{Z \times \text{Sine } EBR}{\text{Sine } EBD}$, therefore, if we call the Radius r, $nr = \frac{Z \times \text{Sine } EBR}{\text{Sine } EBD}$ and $n = \frac{Z \times \text{Sine } EBR}{r \times \text{Sine } EBD}$ and $r \times \text{Sine } EBD$ will have the ſame Proportion to the Sine EBR as Z to N. Hence it is plain, that no finite Force of Elaſticity can extend the Fibre $AEBD$ to a compleat Circle; for, in that Caſe, the Sine of the Angle EBD being nothing, $r \times \text{Sine } EBD$ is nothing, and therefore, Z will be to n as nothing to ſomething, or as a Finite to an Infinite.

The greateſt Contraction of the Fibre, that can be, muſt always be leſs than 72728 of ſuch Parts whereof the Arch AE is 100000; for, if the Threads were extended into compleat Circles, the Contraction would be only $\frac{72728}{100000}$ of AE, which it can never arrive to; therefore, the Contraction muſt be always leſs than $\frac{1}{2}$ of the Length of the Fibre. It is alſo plain, that when the Angle EBR is ſmall, the Force of Elaſticity bears but a ſmall Proportion to the Reſiſtance: For Example, when the Angle EBR is but 30′, the Radius, or r multiply'd into the Sine of the Angle EBD the Sine of one Degree, is to the Sine of the Angle EBR the Sine of 30′ as Z to N, that is, $r \times 1745 : 872 :: Z : n$, that is, $Z : n :: 11459000 \times 1745 : 872 :: 19995955000 : 872 :: 22931141 : 1$, and conſequently, a ſmall Degree of Elaſticity will produce a prodigious Energy in the Muſcles.

* * *

A TABLE of the MUSCLES, from Dr. *Keil.*

Frontales,	They pull the Skin of the Forehead upwards.
Occipitales,	They pull the Skin of the Hindhead upwards.
Attollens } *Auricularum.* *Deprimens* } *Auricularum.*	
Internus Malleoli,	It diſtends the *Tympanum.*

Externus Malleoli,	It relaxes the *Tympanum.*
Obliquus Malleoli.	
Muſculus Stapidis,	It moves the Stirrup.
Corrugator Supercilii.	
Lectus Palpebræ Superioris,	It lifts up the upper Eye-lid.
Orbicularis Palpebrarum,	It ſhuts both Eye-lids.
Attollens *Deprimens* *Abductor* *Adductor* } *Oculorum.*	
Obliquus Major,	It pulls the Eye forwards, and obliquely downwards.
Obliquus Minor,	It pulls the Eye forwards, and obliquely downwards.
Attollens *Dilatans* *Deprimens* } *Nares.*	
Inciſivus,	It pulls the upper Lip upwards.
Triangularis,	It pulleth it downwards.
Caninus, *Elevator Labii Inferioris,*	They pull the lower Lip upwards.
Quadratus.	It pulleth it downwards.
Zygomaticus,	It draws both Lips obliquely to either Side.
Orbicularis,	It draws both Lips together.
Buccinator,	It thruſts the Meat between our Teeth.
Temporalis, *Maſſater,*	They pull the Jaw upwards.
Pterigoieæus Internus,	It draws the Jaw to either Side.
Pterigoidæus Externus,	It draws the Jaw forwards.
Quadratus,	It pulleth the Jaw and the Cheeks downwards.
Digaſtricus,	It pulleth the Jaw downwards.
Periſtaphilinus Internus,	It pulls the *Uvula* forwards.
Periſtaphilinus Externus,	It pulls the *Uvula* backwards.
Stylogloſſus,	It draws the Tongue upwards.
Geniogloſſus,	It pulls it out of the Mouth.
Ceratogloſſus,	It pulls it into the Mouth.
Geniohyoidæus,	It pulls the *Os Hyoides* and the Tongue upwards and forwards.
Sternohyoidæus,	It pulleth the *Os Hyoides* downwards.
Mylohyoidæus,	It pulls it obliquely upwards.
Coracohyoidæus,	It pulls it obliquely downwards.
Stylohyoidæus,	It pulls it to either Side, and ſomewhat upwards.
Stylopharingæus,	It pulleth up and dilateth the *Pharynx.*

OEſo-

OEſophagus,	It ſtraitens the *Pharynx.*
Sternothyroidæus,	It pulls the *Thyroides* downwards.
Hyothyroidæus,	It pulls the *Thyroides* upwards.
Cricothyroidæus.	
Cricoarytœnoidæus Poſticus.	
Cricoarytœnoidæus Lateralis.	
Thyroarytœnoidæus,	It dilates the *Glottis.*
Arytœnoidæus,	It contracts the *Glottis.*
Splenius,	They move the Head backwards.
Complexus,	
Rectus Major,	They nod the Head backwards.
Rectus Minor,	
Obliquus Inferior,	They perform the Semi-circular Motion of the Head.
Obliquus Superior,	
Maſtoidæus,	
Rectus Internus Major,	They nod the Head forwards.
Rectus Internus Minor,	
Rectus Lateralis,	It nods the Head to one Side.
Intercoſtales Interni & Externi,	They pull the Ribs upwards in Inſpiration.
Subclavius,	
Serratus Anticus Major,	
Serratus Poſticus Superior,	
Triangularis,	
Serratus Poſticus Inferior,	They make the Motion of the Ribs downwards in Expiration the ſwifter.
Sacrolumbaris,	
Diaphragma,	Its Uſe is both in Inſpiration and Expiration.
Obliquus Externus,	They compreſs all the Parts contain'd in the lower Belly, aſſiſt the Motion of the Ribs downwards in Expiration, and help to bend the *Vertebræ* of the Loins forwards.
Obliquus Internus,	
Tranſverſalis,	
Rectus,	
Pyramidalis,	
Longiſſimus Dorſi,	It keeps the Body erect.
Tranſverſalis Dorſi,	It moves the Body obliquely backwards.
Interſpinalis,	It draws the acute Proceſſes nearer one another.
Quadratus Lumborum,	It draws the *Vertebræ* of the Loins to one Side.
Longus,	They bend the *Vertebræ* of the Neck.
Scalenus,	
Pſoas Parvus,	It helps to bend the *Vertebræ* of the Loins.
Cremaſter,	It draws up the Teſticles in the Act of Generation.

Erectores Penis.	
Tranſverſalis Penis.	
Acceleratores Urinæ.	
Erectores Clitoridis.	
Sphincter Veſicæ,	It contracts the Neck of the Bladder, that the Urine may not run continually.
Levatores Ani,	They draw up the *Anus.*
Sphincter Ani,	It ſhuts the *Anus.*
Serratus Anticus Minor,	It draws the Shoulder-blade forwards.
Trapezius,	It moves it upwards, backwards, and downwards.
Rhomboides,	It pulls it backwards.
Levator Scapulæ,	It pulls it upwards.
Deltoides, *Supra Spinatus,* *Coracobrachialis,*	They lift the Arm upwards.
Teres Major, *Latiſſimus Dorſi,*	They pull the Arm downwards.
Pectoralis,	It moves the Arm forwards.
Infra Spinatus, *Tranſverſalis,* *Subſcapularis,*	They draw the Arm backwards.
Biceps, *Brachæus Internus,*	They bend the Fore-Arm.
Longus, *Brevis,* *Brachæus Externus,* *Anconæus,*	They extend the Fore-Arm.
Rotundus, *Quadratus,*	They perform the Motion of *Pronation,* or they turn the Palm of the Hand downwards.
Longus, *Brevis,*	They perform the Motion of *Supination,* or they turn the Palm of the Hand upwards.
Cubitæus Internus, *Radiæus Internus,*	They bend the Wriſt.
Cubitæus Externus, *Radiæus Externus,*	They extend the Wriſt.
Palmaris,	It helps the Hand to graſp any Thing cloſely.
Palmaris Brevis,	It makes the Palm of the Hand concave.
Sublimis, *Profundus,*	They bend the Fingers.
Extenſor Digitorum Communis.	
Lumbricales,	They aſſiſt in bending the firſt Joint of the Fingers.

Inter-

Interoſſei Interni,	They draw the Fingers to the Thumb.
Interoſſei Externi.	They draw the Fingers from the Thumb.
Flexor Pollicis Longus.	
Flexor Pollicis Brevis,	
Extenſor Primi,	
——— *Secundi,*	
——— *Tertii Internodii Pollicis.*	
Tenar,	It draws the Thumb from the Fingers.
Antitenar,	It draws the Thumb to the Fingers.
Abductor Indicis.	
Extenſor Indicis.	
Hypotenar,	It draws the little Finger from the reſt.
Extenſor Auricularis.	
Pſoas, *Iliacus,* *Pectinæus,*	They bend the Thigh.
Glutæus Major, *Glutæus Medius,* *Glutæus Minor,*	They extend the Thigh.
Triceps,	It pulls the Thigh inwards.
Pyriformis, *Gemini,* *Quadratus,*	They move the Thigh outwards.
Obturator Internus, *Obturator Externus,*	They help to move the Thigh obliquely, and circularly.
Seminervoſus, *Semimembranoſus,* *Biceps,* *Gracilis,*	They bend the Leg.
Rectus.	
Vaſtus Externus, *Vaſtus Internus,* *Crureus,*	They extend the Leg.
Sartorius,	It makes the Legs croſs one another.
Poplitæus,	It turns the Leg ſomewhat inwards.
Membranoſus,	It turns it a little outwards.
Tibialis Anticus, *Peronæus Anticus,*	They bend the Foot.
Gaſtrocnemii, *Solæus,* *Plantaris,*	They extend the Foot.

Tibialis Poſticus,	It moveth the Foot inwards.
Peronæus Poſticns,	It moveth the Foot outwards.
Profundus, *Sublimis,* *Lumbricalis,*	They bend the four leſſer Toes.
Longus, *Brevis,*	They extend the four leſſes Toes.
Flexor Pollicis.	
Extenſor Pollicis.	
Tenar,	It draws the great Toe from the reſt.
Antitenar,	It draws it to the reſt.
Flexor Pollicis Longus,	
———— *Brevis.*	
Abductor Minimi Digiti.	
Interoſſæi Interni,	They draw the Toes to the great Toe.
Interoſſæi Externi,	They draw them from the great Toe.
Tranſverſalis,	It brings all the Toes cloſe to one another.

In all 446 ſingle MUSCLES in the BODY.

Muſick : Its Effects upon human Bodies is to be underſtood by thoſe only who are appris'd of the Structure of an animal Fibre, (which ſee under *Fibre.*) For, according to that Contexture, it is very plain, that the leaſt Stroke imaginable upon it muſt move its component *Machinulæ* in all their Parts; every Wave, therefore, or Undulation of the Air, which is made by a muſical Inſtrument, gives the Fibres of the whole Body, more or leſs, according to their Degrees of Tenſion, correſpondent Concuſſions, whereby all the *Machinulæ* are ſucceſſively mov'd, from one to another, throughout the whole Thread; and conſequently, the Spirits are not only rais'd, or made finer, but the other animal Fluids are alſo more briskly agitated, and their preternatural Coheſions and Viſcidities deſtroy'd. And this Advantage has Muſick above any other Exerciſe, that thoſe Concuſſions, made upon the Fibres thereby, are ſhort, quick, and eaſy; whereupon the nervous Fluid is not only more briskly agitated, but alſo the natural Contextures of all the animal Threads are better preſerv'd, by their being never over-ſtrain'd hereby, as they frequently are by other Exerciſes: and, upon this View, the extraordinary Effects of Muſick, upon many Diſtempers, ceaſes to be a Wonder; and it is rather to be admir'd, that it is not much more brought into Uſe. See *Poiſon.*

Mylogloſſum, from μύλη, *Mola,* or *Dentes molares,* the Grinders, and γλῶσσα, *Lingua,* the Tongue: a Pair of Muſcles is thus call'd, becauſe they ariſe about the Backſide of the grinding Teeth, and are inſerted into the Ligament of the Tongue; they help to pull it upwards. See *Tongue.*

Mylohyoidæus. See *Tongue.*

Myologia, from μυῶν, *Muſculus*, a Muſcle, and λέγω, *dico*, to tell; is a Deſcription of the Muſcles.

Myopia, and

Myopiaſis, and

Myops, from μῦς, *Mus*, a Mouſe, and ὤψ, *Oculus*, an Eye; Mouſe-ey'd, or Pur-blind, is when the Eye is ſo convex, that the Rays unite, before they come to the *Retina*; which makes the Eye alſo look ſmall, whence the Name.

Myotomia, from μυῶν, *Muſculus*, a Muſcle, and τέμνω, *ſeco*, to cut; is a Diſſection of the Muſcles.

Myrrh, a Gum of admirable medicinal Virtues, and particularly, in all Caſes of Corruption or Mortification; whence it is of great Uſe in the Art of Embalming. It flows, or is ſaid to flow from a particular Tree in *Arabia*. There are various Kinds of it, one being ſo fat and unctuous, that it cannot be reduc'd to Powder, before 'tis well dry'd on the Fire. The Antients greatly perplex'd themſelves to find out a thorough Solvent for this Gum; but all to no Purpoſe. Our preſent happy Chymiſtry affords us more Ways than one to effect it perfectly, and that to very great Advantage. We can now expeditiouſly make Tinctures, *&c.* thereof; without being any ways beholden to the tedious Method of *Helmont*, and convert it into any Form we pleaſe, ſo as to render it ſoluble in the Stomach, and miſcible with the Juices of the Body: a valuable Secret, of which Antiquity was no Maſter.

Myrtiformes Glandulæ, from *Myrta*, Myrtle, and *Forma*, Shape; are already deſcrib'd. See *Generation Parts of, proper to Women.*

N.

No. In Preſcription is often us'd to ſignify the Number of Things, as, *Caryophyllorum* Nº vi. is ſix Cloves.

Nævi, ſignify thoſe Marks that are made upon the *Fœtus*, by the Imagination of the Mother, in longing for any Thing.

Nails: They ſeem to be of the ſame Nature as the Hoofs of other Animals, which are nothing elſe but a Number of ſmall Husks, which anſwer to ſo many *Papillæ* of the Skin. From whence may be concluded, that the Nails are nothing but the Covers or Sheaths of the *Papillæ Pyramidales* of the Skin on the Extremities of the Fingers and Toes, which dry, harden, and lie upon one another. Their Uſe is to defend the Ends of the Fingers in handling any hard and rugged Bodies.

Narcoticks: Under this Term is included all that Part of the *Materia Medica*, which any way produces Sleep, whether call'd by this Name, or *Hypnoticks*, or *Opiates*. But, although many of this Tribe ſtand, with ſome Authors, in the Rank of Poiſons, yet we ſhall not here enter into the Controverſies, whether ſuch Things can be medicinal, or, whether a Medicine can poiſon; becauſe it is certain, there is Truth on both Sides the Debate. Theſe are Inſtruments, whoſe Agency lie very remote from the Reach of our Senſes, as wonderful Effects are often produc'd almoſt from unheeded Cauſes.

To underſtand the Manner of Operation of theſe medicinal Simples, and to help us to aſcertain their Uſes in many Caſes, we ſhould be before-hand rightly appris'd of their Natures, and Ways of Acting. And, in order hereunto, it is neceſſary, beſides ſome other *Precognita*, to define diſtinctly what Sleep is, or rather, (to avoid Confuſion and Diſpute about Words) what Difference there is between an animal Body when aſleep, and when awake.

Firſt then, there is no one but knows, that in Sleep there is a Ceſſation from Action. When waking, we walk, diſpute, move this, or that Limb, *&c.* but in natural and undiſturb'd Reſt, there is nothing of all theſe: that is, whereas, being awake, we do perform ſeveral Motions, by the voluntary Contractions of our Muſcles; when aſleep, thoſe Muſcles only are contracted, whoſe Action is, in a Manner, involuntary, or to which the Mind has ſo conſtantly determin'd the Spirits, that it does it by a Habit, without the Intervention of the reaſoning Faculty: Such are thoſe of the Heart and Breaſt. So that there is, at this Time, a Kind of Relaxation, or Looſeneſs of the moving Fibres of the ſeveral Members; or, at leaſt, ſuch a quiet Poſition and State of them, by which all the Antagoniſt-Muſcles are in an *Æquilibrium* and Equality of Action, not overpowering one another. For this, indeed, ſeems to be one great Deſign of Sleep, to recover to the Parts, over-ſtretch'd by Labour, their former Force: and, therefore, we do naturally, when compoſing ourſelves to Reſt, put our Body into that Poſture, which does moſt favour the particularly weary'd Limbs, and conduce to this End.

In the next Place, it is very plain, that there is, in Sleep, not only a Reſt, and a Suſpenſion from acting moſt of our bodily Organs, but even of our thinking Faculty too: that is, a ceaſing from ſuch Thoughts, as, when waking, we are exercis'd about, which we do reflect upon, and will, to employ our Mind with. For, tho' Dreams are Thoughts, yet they are imperfect, and incoherent ones, and are, indeed, either ſo faint and languid Repreſentations, as to be conſiſtent with our Sleep, as ſome may be; or elſe, if they be ſtrong and lively, they are, as every one knows, the Interruption and Diſturbance of it. From hence it will follow, that the Motion of the arterial Fluid muſt be, *cæteris paribus*, more ſedate, even, and regular, in the Time of Sleeping, than Waking. For, beſides the various Alterations, which, in the latter State, this receives from the ſeveral Paſſions of the Mind, the very Contractions of the Muſcles themſelves, in Exerciſes of the Body, do differently forward its Courſe; whereas, in Sleep, the Force of the Heart and pectoral Muſcles, being more conſtant and uniform, gives it a more calm, and equally continu'd Impulſe. Hence alſo, it will come to paſs, that the Influx of the Liquor of the Nerves into the Organs of the Body, as alſo its Reflux towards the Brain, is, in Sleep, either none, or very inconſiderable: that is, that this Fluid has, at this Time, but little or no Motion. For, 'tis muſcular Action and Senſation, that requir'd it to be thus determin'd, this Way, or that, which are now hardly any. And yet, by the Arrival of Blood at the Brain, this Juice will ſtill be ſeparated there, fit to be deriv'd into its Canals or Tubes. So that, by this Means, there will be a Kind of Accumulation, or laying up in ſtore, of Spirits, for the Offices and Requirements of Waking.

Thus we may, in ſhort, look upon the Time of Watching, as the Time of wearing out, or the Deſtruction of the animal Fabrick; and the Time of Sleep, as that in which it is repair'd and recruited: not only upon Account of what we have juſt mention'd concerning the nervous Liquor, but alſo, with reſpect to all other Parts, as well fluid as ſolid. For, Action does neceſſarily, by Degrees, impair the Springs and Organs; and, in Motion, ſomething is continually abraded, and ſtruck off from the diſtractile Fibres, which cannot otherwiſe be reſtor'd, than by their being at Reſt from Tenſion. Beſides, that ſuch a regular and ſteddy Courſe of the Blood, as has been obſerv'd to be in Sleep, is, by far, more fit and proper for Nutrition, or an Appoſition of Parts to the Veſſels, which an uneven Hurry of it is more apt to tear off and waſh away.

The Caſe being thus, it is very plain, that whatſoever can induce ſuch a Diſpoſition on the Fluids, and muſcular Parts of the Body, as this we have deſcrib'd, will cauſe Sleepineſs. And, in like Manner, when any Thing interpoſes and hinders this Compoſedneſs and Tranquility, the removing the Impediment will be the cauſing of Sleep; inaſmuch as this is only reducing the Animal OEconomy to its right State, in which, by natural Order, there muſt be a Succeſſion of Sleeping and Waking. Thus it appears, how neceſſarily continu'd Exerciſes cauſe Sleep, ſince theſe do exhauſt the Juice of the Nerves; that is, both leſſen its Influx into the Organs of Motion, and incline the Mind not to determine it any longer that Way, upon the Account of the Pain and Uneaſineſs, with which too violent a Tenſion of the Parts is always attended; which, therefore, we muſt deſire to relax, or lay to Reſt.

That Sleepineſs, which follows, upon a Fulneſs of the Stomach, after Eating, or Drinking, is owing to a different Cauſe; and does, indeed, ſo nearly fall in with the Effects of Opiate-Medicines, that it requires a particular Conſideration.

As, Hunger, or the Emptineſs of the Stomach, is a painful Senſation; ſo the ſatisfying or removing of this is a pleaſing and an agreeable one. Now, all Pain is a *Stimulus* upon the Part affected; and this, we all know, being attended with Contractions of the pain'd Membranes, cauſes a greater Afflux than ordinary of the nervous Juice that Way. On the other Hand, Pleaſure, or a de-

delightful Senſation in any Part, is accompany'd with a ſmooth Undulation, and eaſy Reflux of the Liquor of the Nerves towards the Brain. This is, as it were, the Entertainment of the Mind, with which being taken up, it does not determine the Spirits to the Organs of Motion: that is, there is ſuch a Relaxation of the muſcular Fibres, and ſuch a Diſpoſition of the nervous Fluid, as we have obſerv'd to be neceſſary to Sleep. And this is the Reaſon of that Chillineſs in the Limbs, which is commonly complain'd of after a good Meal.

If it ſeem ſtrange, that a Pleaſure in the Stomach ſhould ſo powerfully influence the Mind, let it be conſider'd, on the other Hand, how violent Effects an uneaſy and diſagreeable Senſe in the ſame Parts does produce; what a terrible Agony two or three Grains of *Crocus Metallorum* throws the whole Fabrick into; how readily the Fluid of the Nerves is, with a more than ordinary *Impetus*, determin'd, and commanded into the Muſcles of the Stomach and *Abdomen*, in order to throw off the Enemy, and remove the ungrateful Senſation.

Now, the Conſequences, which are aſcrib'd to a pleaſing Senſe of this Part, are only juſt the contrary of theſe, which the oppoſite Affection of Pain induces. And, indeed, Pleaſure and Pain are two great Springs of Action in the Animal OEconomy. The Changes they make in the Fabrick, are the Cauſes of many Effects, which ſeem ſurprizing, becauſe we do not regard the Mechaniſm by which they are produc'd: but, theſe muſt be more conſiderable in the Stomach, than any-where elſe; this Part being, for many wiſe Purpoſes, of ſo acute a Feeling, that ſome Philoſophers have, for this Reaſon, thought it to be the Seat of the Soul.

Beſides theſe Conſiderations, it may be taken Notice, that the Stomach, being diſtended with Food, preſſes upon the deſcending Trunk of the *Aorta*, and thus cauſes a greater Fulneſs of the Veſſels in the upper Parts; whereupon the Brain is loaded, or the Derivation of Spirits into the Nerves diminiſh'd, upon which Inactivity or Drowſineſs enſues. From hence proceed thoſe Fluſhings in the Face, Redneſs, *&c.* after plentiful Eating and Drinking, moſt viſible in thoſe whoſe Veſſels are lax and weak, as in exhauſted and hectick Perſons they more eſpecially are. Thus we may, without the Aſſiſtance of the new Chyle entering into the Veſſels, account for that Inclination to ſleep, which follows, upon a full Stomach: though we muſt alſo allow the Diſtenſion, from this, to be a conſiderable Cauſe of the ſame Effect. But, this does not happen immediately, nay, ſometimes, perhaps, not within two or three Hours after Eating; and the ſudden Drowſineſs muſt (as well as the preſent Refreſhment and Reviving which Meat gives) be chiefly owing to ſome more ſpeedy Alteration.

Now, to apply this more ſtrictly, it may be neceſſary to conſider yet more nearly the Effects of an *Opiate* or *Narcotick*; firſt, upon the Stomach, and afterwards, when they have paſs'd the *Primæ Viæ*, upon the arterial Fluid itſelf.

An agreeable Senſation produc'd

duc'd in the Stomach, together with a Diſtenſion of its Membranes, has been already obſerv'd to be the Cauſe of that Sleepineſs, to which we are ſo inclinable after Eating. The one of theſe engages the Mind, the other acts upon the Body. For, Pleaſure amuſes the Soul, as it were, ſo that it does not think, or exerciſe itſelf about any outward Objects; that is, it is inclin'd to Reſt, and the Fulneſs of the Veſſels in the Brain checks and hinders, in ſome Meaſure, the Derivation of the nervous Juice into the Organs. Now, they who take a moderate Doſe of an *Opiate*, eſpecially, if not long accuſtom'd to ſuch Things, are ſo tranſported with the pleaſing Senſe it induces, that they are, as they often expreſs themſelves, in Heaven; and, though they do not always ſleep, (which proceeds from the Preſentation of pleaſing Images to the Mind, being ſo ſtrong, that, like Dreams, they do over-engage the Fancy, and ſo interrupt the State of Reſt) yet they do, however, enjoy ſo perfect an Indolence and Quiet, that no Happineſs in the World can ſurpaſs the Charms of ſo agreeable an Extaſy.

Thus we have, from theſe Medicines, but in a far more eminent Degree, all thoſe Effects, which were obſerv'd to follow upon that grateful Senſe in the Stomach, which a moderate Fulneſs produces. For, no Bodies are ſo fit and able, pleaſingly, to affect our ſenſible Membranes, as thoſe which conſiſt of volatile Parts, whoſe Activity is temper'd and allay'd, by the Smoothneſs of ſome which are lubricating and oily: For, they lightly rareſy the Juices of the Stomach, and cauſe a pleaſant Titillation of its nervous Coat, whereby there is induc'd an agreeable Plenitude, and the Mind is entertain'd with Ideas of Satisfaction and Delight. And thus we eaſily ſee, upon what Mechaniſm the other Virtues of *Opiates* do depend: For, their eaſing Pains, checking Evacuations, *&c.* proceed not only from the Mind's being taken up with a pleaſing Senſe, whereby it is diverted from a diſagreeable one; but all Pain being attended with a Contraction of the Part, the Relaxation of the Fibres, which they cauſe, eludes and deſtroys the Force of the *Stimulus*.

In like Manner, in immoderate Secretions, there is moſt commonly an Irritation of the Organs, the Removal of which will abate the Diſcharge. And herein lies the incraſſating Quality of theſe Medicines, in that, the twitching Senſe upon the Membranes of the Lungs, Bowels, *&c.* being leſſen'd, the ſharp Humor is ſuffer'd to lodge there in a greater Quantity, before it is ſo troubleſome, to be thrown off and expell'd: It being all one, as if there were no Irritation of the Part, if the uneaſy Senſe thereof be not regarded by the Mind. Theſe Effects will all be heighten'd by the Mixture of the *Narcotick* Particles with the Blood; which is hereupon rareſy'd, and diſtends its Veſſels, eſpecially, thoſe of the Brain: and thus does ſtill, to a greater Degree, leſſen the Influx of the nervous Fluid to the Parts, by preſſing upon the *Tubuli*, or little Canals, through which it is deriv'd. This is the Reaſon of that Difficulty of Breathing, which they do, for a Time, experience, who take theſe Kind of Medicines; this Symptom being inſeparable from the Rarefaction of the Blood in the Lungs.

From hence it appears, that the Action of theſe Medicines, and particularly, that of *Opium*, is very analogous to that of other volatile Spirits; only, that a ſmall Portion of the former has a Force equal to that of a greater Quantity of the latter. And this is very evident, in thoſe who accuſtom themſelves to take large Doſes of *Opium*; as the *Turks* and *Perſians* do, to that Degree, that it is no uncommon Thing there to eat a Dram, or two, at a Time; for, the Effects of it, in them, are no other than downright Drunkenneſs: Upon which Account, it is a common Saying with them, and on the ſame Occaſion, *He has eat Opium*; as with us, *He has drank too much Wine.* Neither, indeed, do they bear ſuch large Quantities of it, otherwiſe than Tipplers will a great deal of Brandy; that is, by habituating themſelves to it, by Degrees, beginning with ſmall Doſes, and requiring ſtill more and more, to raiſe themſelves to the ſame Pitch. Juſt as *Galen* tells of a Woman at *Athens*, who, by a gradual Uſe, had brought herſelf to take, without any Hurt, a conſiderable Quantity of Hemlock: which Inſtance is the more to our Purpoſe, becauſe *Nic. Fontanus* knew one, who, being recover'd of the Plague, and wanting Sleep, did, with very good Effect, eat Hemlock for ſome Time; 'till falling ill again of a Fever, and, having left off the Uſe of this Remedy, he endeavour'd to procure Reſt, by repeated Doſes of *Opium*, which (Nature having been accuſtom'd to a ſtronger Alterative) had no Operation, until the Help of Hemlock was again call'd in, with the deſir'd Succeſs.

It is a ſufficient Confirmation of all this Reaſoning, that *Proſper Alpinus* obſerv'd amongſt the *Egyptians*, thoſe who had been accuſtom'd to *Opium*, and were faint and languid, for Want of it, (as Drinkers are, if they have not their Liquors) to be recover'd, and put into the ſame State of Indolence and Pleaſure, by large Doſes of *Cretian* Wine, made hotter, by the Infuſion of Pepper, and the like ſtrong Aromaticks. Nor is it, perhaps, amiſs to remark, that in *Maniacal* People, as is frequently obſerv'd, a quadruple Doſe of an Opiate will ſcarcely produce any conſiderable Effect. Now, in Perſons ſo affected, the Mind is deeply engaged, and taken up with ſome Images, or other, as, Love, Anger, *&c.* ſo that it is not to be ſo eaſily mov'd or diverted, by thoſe pleaſing Repreſentations, which it would attend to at another Time, and upon which the Virtues of theſe Medicines do, in a great Meaſure, depend. Beſides this, thoſe who are *Maniacal*, do, to a Wonder, bear the Injuries of Cold, Hunger, *&c.* and have a prodigious Degree of muſcular Force; which argues, the Texture of their Blood to be very ſtrong, and the Coheſion of its Globules great: So that the ſpirituous Parts of an Opiate cannot make that Disjunction and Rarefaction of this Fluid in them, which it does in ordinary Bodies and Conſtitutions.

How far this Theory is improveable into Practice, all ſuch are Judges, who have a true Acquainquaintance with the Animal OEconomy. And, becauſe many medicinal Simples, under this Diviſion, have often Effects, which are term'd *deleterious* and *poiſonous,* inſomuch as to kill, and that very ſuddenly; and that very ſuddenly; it may be worth While to inform ourſelves, from the ſame Inſtructor, who has conducted us hitherto on this Head, how ſuch Inſtruments act, in bringing about thoſe fatal Conſequences. For, the moſt gentle of this *Tribe,* in an Over-Doſe, have the ſame Effects as a Poiſon, and prove equally deſtructive. *Opium,* in too great a Quantity, will inflame the Stomach, and rarefy the Blood to ſuch a Degree, that the Veſſels cannot again recover their Tone; whereupon Apoplectick Symptoms, *&c.* will enſue.

To be convinc'd of this, Dr. *Mead* tells us, that he forced into the Stomach of a ſmall Dog about half a Dram of crude *Opium,* diſſolv'd in boiling Water. He quickly vomited it up, with a great Quantity of frothy Spittle; but, repeating the Trial, by holding up his Head, and beating him, the Doctor made him retain three or four Doſes, intermitting between each, about a Quarter of an Hour. When the Dog had thus taken, as near as he could gueſs, about two Drams, he watch'd him an Hour, when he began to ſleep; but preſently ſtarted up with Convulſions, fell into univerſal Tremblings, his Head conſtantly twitch'd and ſhook; he breath'd ſhort, and with Labour, and, at length, loſt entirely the Uſe of his hinder-Legs, and then, of the fore-ones, which were ſtiff and rigid, like Sticks. As he lay ſnorting, the Doctor, to haſten his End, was giving him more of the Solution; but, on a ſudden, his Limbs grew limber, and he dy'd. Upon opening his Stomach, it was found wonderfully diſtended, though empty of every Thing but ſome Water and *Opium,* together with ſome Parcels of frothy *Mucus* ſwimming in it: the Inſide was as clean, as if ſcrap'd, and waſh'd from all the Slime of the Glands, with ſome Redneſs here and there, as in a beginning Inflammation. The *Pylorus* was contracted. The Blood-Veſſels of the Brain were very full; and he took out a large Grume of concreted Blood from the upper Part of it, cutting into the *Sinus Longitudinalis,* as is not uncommon in Apoplectick Carcaſes: but found no extravaſated *Serum* in the Ventricles, nor among any of the Membranes.

And thus, from the Effects of an Over-Doſe of an Opiate, may we conceive how many, under this Claſs, are ſo powerful, in their Narcotick Qualities, as to prove deadly, in very ſmall Quantities; and are, therefore, not ſafely admitted into Practice. Some of them conſiſt of ſuch hot, acrid, and corroſive Parts, as by rarefying the Juices of the Stomach, and wounding of its nervous Membranes, are the Cauſe of all thoſe Diſorders, which do immediately follow. For, upon the Senſe of a violent Irritation and Pain, the Fluid of the Nerves is immediately, in large Quantities, determin'd to the Part affected; and this, if the *Stimulus* is not over-great, will be only to ſuch a Degree as is ſufficient, by contracting the Fibres of the Stomach, and Muſcles of the *Abdomen*, to throw off the Cauſe of the diſagreeable Senſation: but, the uneaſy Twitching being too terrible to be borne, the Mind, by a Kind of Surprize, does, with Haſte and Fury, as it were, command the Spirits thither. Thus, the Buſineſs is over-done, and the Action of the Fibres become ſo ſtrong, that the Orifices of the Stomach are quite clos'd; ſo that, inſtead of diſcharging the noxious Matter, the Torment is made greater, and the whole OEconomy put into Confuſion. The Inſtance of the Child, in *Wepfer*, which, in ſuch an Agony, made Water, to the Height of five or ſix Foot, with a ſurprizing Strength and Violence, is a Demonſtration of this forcible Contraction of the Muſcles. Nor is it any Wonder, if, in theſe Circumſtances, all Senſe be loſt, Blood guſh out at the Ears, Noſtrils, *&c.* the Parts being all torn and broke, by the Violence of the Convulſions; which, tho' they begin in the Muſcles of the Belly, muſt, at laſt, prevail in the Members too, 'till the whole Fabrick is ſhock'd and overturn'd; and ſome corroſive Salts, perhaps, getting into the Blood, and, by the Rarefaction of it, diſtending the Veſſels, the membranous Coats of them being already over-ſtretch'd, will the more eaſily give Way, and let out their Fluid.

And, beſides the irritating ſaline Particles in the Compoſition of ſome of this Kind, many of them abound with an extremely fetid and offenſive Sulphur; which gives ſuch a diſagreeable and uneaſy Senſation to the Nerves, as ſuffocates, in a Manner, the Spirits, and deadens their Motions.

Nares, the Noſtrils. See *Naſus*.

Naſalia, from *Naſus*, the Noſe; the ſame as *Errhines*.

Naſi Os. See *Maxilla ſuperior*.

Naſus, the Noſe. This may be divided into two Parts, the external, and the internal. The external Part is cover'd with the Skin, and ſome Muſcles; which ſee under their proper Names. Its upper Part conſiſts of two Bones, cloſely join'd together on their upper Side. Its lower Part is made of four Cartilages, of which the firſt two are fix'd to the lower Ends of the foreſaid Bones; they are alſo join'd together on the upper Side: they are pretty broad, and, as they approach the Tip of the Noſe, they grow thinner, and ſofter. The other two lie upon the lower Ends of the firſt two, to which they are ty'd by a Membrane; they are call'd *Alæ Narium*. The Cavity, made by theſe Bones and four Cartilages, is divided in its Middle into two Noſtrils, by a Partition, of which the upper End is bony, and the lower End cartilaginous. The fleſhy Extremity of this Cartilage is call'd *Columna*. The upper End of each Side of this Cavity divides into two, of which one goes up to the *Os Spongioſum*, the other goes down into the *Fauces*, and opens behind the Palate, by which Means we breathe through our Noſtrils. At the lower End of this Cavity there are two ſmall Holes, which pierce the Bone of the Palate, and open in one behind the *Dentes Inciſivi*; they carry the thin Rheum of the

Noſtrils into the Mouth. The Cavity is cover'd by a pretty thick, and glandulous Membrane: Its Glands ſeparate that Matter, which we call *Mucus,* in the Noſtrils. On the lower End of this Membrane, there grow ſeveral Hairs call'd *Vibriſſæ*, they, with the *Mucus,* which the Glands ſeparate, ſtop any Filth from aſcending too far into the Noſtrils.

By the internal Part of the Noſe, is underſtood the immediate Organ of Smelling; it lies in the upper Part of the Cavity of the Noſtrils; it is made of the *Os Cribriforme,* and its Productions, the *Os Spongioſum,* of which each *Lamina* is cover'd with a very fine Membrane, upon which the Fibres of the Olfactory Nerve, which paſſes the Holes of the *Os Cribriforme,* and the Fibres of the firſt Branch of the fifth Pair, which come from the Orbit, are ſpread. In this Membrane there are many ſmall Glands, which ſeparate an Humor that moiſtens it, and ſtops the Exhalations of odoriferous Bodies, which make their Impreſſions upon the Olfactory Nerves that are ſpread upon it. Hounds, and other Beaſts, which have a more exquiſite Smell than Men, have alſo many more *Laminæ* cover'd with ſuch a Membrane. There are ſeveral Conduits which open between theſe *Laminæ.* The firſt and ſecond are the *Ductus Lachrymales.* The third and fourth come from the *Sinus Frontalis.* The fifth and ſixth come from the Nut of the ſecond Bone of the upper Jaw. The ſeventh and eighth come from the Cells of the *Os Spongioſum*; they pierce the Membrane which covers the firſt or uppermoſt *Laminæ*: and the ninth and tenth come from the *Sinus* in the *Os Sphenoides.* All theſe Conduits carry the Liquor, which is ſeparated, in their Cavities, into the Noſtrils, for the moiſtening its Membranes, which otherwiſe would dry too much, by the Air breath'd through the Noſtrils.

The Veſſels of the Noſe are Arteries from the *Carotidales*, which paſs with the Olfactory Nerve, and they are diſtributed into the internal Noſe. The external *Carotidal,* and Jugular, and the ſecond Branch of the fifth Pair, give Arteries, Veins, and Nerves to the external Noſe. Some give an Account, why the Smell of Bodies, which conſiſt of acrimonious Parts, draws Tears from the Eyes; and, why the Want of Taſte does ordinarily accompany the Want of Smelling, by the Communication of the Branches of the fifth Pair of Nerves, which are diſtributed through thoſe Organs of Senſation.

Nates Cerebri. See *Brain.*

Natural Faculty, is that Power ariſing from the Blood's Circulation, which is conſpicuous in all the Secretions perform'd within the Body, that Secretion alone excepted, which is made at the Origin of the Nerves.

Natural Functions, are thoſe which convert the Aliment into the Subſtance of the Body, and, therefore, depend upon the *Viſcera,* Veſſels, and Humors, that receive, detain, move, change, mix, ſeparate, apply, diſcharge, and conſume.

Nature, is a Word us'd in divers Significations. More ſtrictly it is taken for a peculiar Diſpoſition of Parts in ſome particular Body;

Body: as we ſay, it is the Nature of Fiſh to live in the Water. And again, it is taken more largely for the univerſal Diſpoſition of all Bodies: and, in this Senſe, it is nothing elſe but the Divine Providence, foraſmuch as that governs and directs all Things by certain Rules and Laws, accommodated to their ſeveral Conditions of Exiſtence. Sometimes it is taken for the eſſential Properties of ſome Things, with the Attributes belonging thereunto; as we ſay, it is in the Nature of God to be good, of a Soul to think, or of a Stone to gravitate. And laſtly, it is ſometimes us'd for the Syſtem of the Univerſe, and the whole viſible and created World.

Laws of Nature, are thoſe Laws of Motion, by which all natural Bodies are commonly govern'd in all their Actions upon one another, and which they inviolably obſerve in all the Changes that happen in the natural State of Things; they are reducible to theſe.

I. *All Bodies perſevere in the ſame State of Reſt, or of moving forward in a ſtrait Line, unleſs forced out of that State by ſome outward impreſs'd Violence; that is, all Bodies at Reſt, will naturally, and of themſelves, for ever continue in Reſt, unleſs ſome external Cauſe put them in Motion: and all Bodies in Motion will naturally move forwards for ever in the ſame ſtrait Line, unleſs they are ſtopp'd by ſome oppoſite Force, or turn'd out of their Courſe by ſome differently directed Violence.*

To ſhew how inviolably this Law is obſerv'd by natural Agents, we need only conſider, it never has been obſerv'd, that any Body did, of itſelf, bring itſelf from Reſt to Motion, nor that ever any Body in Motion, of itſelf, alter'd its Courſe; but, that where-ever ſuch Changes happen'd, there were always evident Cauſes. If Bodies chang'd their Places, of themſelves, all Things would run into Confuſion; nor would there be any certain Means to regulate the Motions of the Univerſe. We are certain, *Projectiles* would for ever move on in the ſame right Line, did not the Air, their own Gravity, or the Ruggedneſs of the Plane on which they move, ſtop their Motion, or, did not ſome Body with a different Direction alter their Courſe. A Top, whoſe Parts, by their Coheſion, hinder one another's rectilinear Motions, would never ceaſe to turn round, did not the Air gradually impair its Motion. Natural Bodies conſiſt of a Maſs of Matter, which, by itſelf, can never alter its State; and, if Bodies are once at Reſt, they muſt continue ſo, unleſs ſome new Force put 'em in Motion. If in Motion, the ſame Energy will continue 'em in Motion, and drive 'em forwards in the ſame Directions.

Moreover, there is in Matter a paſſive Principle, which Sir *Iſaac Newton* very well expreſſes, by the *Vis Inertiæ*, whereby Bodies reſiſt, to the utmoſt of their Power, any Change or Alteration of their State, whatever it be, either of Reſt, Motion, or its Direction; and this Reſiſtance is always equal in the ſame Body, and in different Bodies is proportional to the Quantity of Matter they contain. There is requir'd much Force to ſtop a Body in Motion, as is requir'd to put it in Motion, and *è contra:* And, therefore, ſince the ſame Body equally reſiſts the contrary equal Changes of its State, this Reſiſtance will operate as powerfully to keep a Body in Motion, as to keep it at Reſt; and conſequently, of itſelf, it can never change its State of Reſt, Motion, or Direction; for, to change its Direction is the ſame Thing as to move, of itſelf, another Way. Matter then, of itſelf, is ſo far indifferent to Motion, or Reſt, that it is no more inclin'd to the one than to the other, and does no leſs reſiſt a Change from Reſt to Motion, than from Motion to Reſt. This *Vis Inertiæ* is no-where more conſpicuous, than in the ſudden Motion of a Veſſel full of Liquor upon a horizontal Plane; at firſt, while the Veſſel is moving along the Plane, the Liquor ſeems to move with a Direction contrary to that of the Veſſel, the Water riſing on the Hinder-Side of the Veſſel. Not that there is really any ſuch Motion impreſs'd upon the Liquor, but that, by the *Vis Inertiæ*, the Water endeavouring to continue in its State of Reſt, the Veſſel cannot, immediately, communicate its Motion to it, by reaſon of its Bulk and fluid State: but the Liquor perſeveres in its State of Reſt, whilſt the Veſſel makes forwards, and ſo ſeems to move a contrary Way. But, when once the Liquor has the Motion of the Veſſel entirely communicated to it, and begins to move with a Velocity equal to that of the Veſſel, if the Veſſel be ſuddely ſtopp'd, the Liquor continues its Motion, and daſhes over the Sides of the Veſſel. This paſſive Principle, or *Vis Inertiæ*, is eſſential to Matter, becauſe it neither can be depriv'd of it, nor intended, or remitted in the ſame Body, but is always proportional to the Quantity of Matter Bodies contain.

Corol. 1. Hence it is evident, that no Particle of Matter, nor any Combination of Particles, that is, no Body can either move, of themſelves, or, of themſelves, alter the Direction of their Motion: Matter is not endow'd with Self-Motion, nor with a Power to alter the Courſe in which it is put, it is merely paſſive, and muſt for ever, of itſelf, continue in that State and that Courſe that it is ſettled in; and, if it can't move of itſelf, it can never alter its Courſe of itſelf, when in Motion; for to alter its Courſe, of itſelf, is only to move, of itſelf, after a particular Manner.

Corol. 2. Hence it is evident, that no Body, put in Motion, will naturally, and of itſelf, move in a curve Line. All Motion is naturally forward in the ſame ſtrait Line with the Direction of the moving Force; but, whatever moves in a curve Line, muſt in every Point alter its Direction, and therefore, naturally of itſelf, no Body can move in a curve Line.

Corol. 3. Hence the great Bodies of this Univerſe, the Planets, their Satellites, and the Comets, do not naturally, and of themſelves (though at firſt put in Motion) move in their reſpective Orbits, which are curve Lines returning into themſelves, but are kept in them by ſome attractive Force, which, if once ſuſpended, they would for ever run out in right Lines; and conſequently, the Motions of theſe great Bodies in their Orbits do abſolutely depend upon this attractive Force, whenceſoever it ariſes.

Corol. 4. Hence neither Motion, nor Reſt (I mean, not one of them particularly) is eſſential to Matter; *i. e.* Matter is indifferent, as to either of theſe parricularly, and does as much reſiſt its being changed from Reſt to Motion, as it does the being changed from Motion to Reſt. And, as any Force will imprint ſome Degree of Motion on a quieſcent Body, ſo the ſame Degree of Force, impreſs'd at the ſame Time with a contrary Direction, will bring it Reſt again; but, it is not neceſſary to the Being of Matter, that it be in Reſt or Motion: For, Matter will be ſtill Matter, in whichever of theſe States it be. In a Word, ſince the formerly mention'd paſſive Principle, or *Vis Inertiæ*, is eſſential to Matter, it thereby becomes indifferent, as to Motion or Reſt, and is equally ſuſceptible of either, according as the extrinſick Force urges it.

Corol. 5. Hence the Neceſſity of a *Vacuum*, or Space diſtinct from Matter, is clearly demonſtrable: For, ſince, by their *Vis Inertiæ*, all Bodies reſiſt, to the utmoſt of their Power, any Change or Alteration of their State, whether of Motion or Reſt; and ſince the Reſiſtance in the ſame Body is always equal, or the ſame, and in different Bodies is proportionable to the Quantity of Matter they contain; and ſince, conſequently, if two Bodies containing equal Quantities of Matter, and moving with equal Celerities in contrary Directions, ſo that they impinge directly upon one another, will certainly both reſt or ſtop at the Point of their Concourſe; as alſo, ſince it is demonſtrable, that two Bodies moving contrariwiſe with equal Celerities, and both reſting, are equally heavy; it neceſſarily follows, that two Bodies, containing equal Quantities of Matter, are equally heavy: And, therefore, were there no Vacuities in Bodies, two Spheres of equal Diameters ſhould contain equal Diameters of Matter, and, conſequently, be equally heavy, *i. e.* two Spheres of equal Diameters, one of Gold, another of Wood, ſhould have the ſame ſpecifick Gravities: which being contrary to Experience, there is a Neceſſity of admitting Vacuities in the latter Sphere, to anſwer the Difference of their Gravities.

It is true, it may be here anſwer'd, that one of the equal Bodies may be ſuppos'd to be more porous than the other, and the Pores to be pervaded by a ſubtile Fluid, which, paſſing freely through the Bodies, is not concern'd in the Impulſe. And, to obviate this Objection, and, conſequently, to make this Proof of the Neceſſity of a *Vacuum* amount to a Demonſtration, Sir *Iſaac Newton* has ſhewn, from many repeated Experiments by *Pendulums*, in Air, Water, and Mercury; and more exactly, by Experiments on heavy Bodies falling in Air and Water; that the Reſiſtance of fluid Bodies is always proportional to their Denſities, that is, to the Quantities of Matter they contain, or their *Vires Inertiæ*. The Reſiſtance in Fluids ariſes from their greater preſſing on the Fore, than Hind-Part of the Bodies moving in them; and this muſt be always in all Fluids proportional to the Quantity of Matter they contain, which preſſes on theſe Sides, that is, their Denſity. Bodies moving in Fluids preſs upon, and excite a Motion in the Fluids in their Paſſage; and this Motion, thus impreſs'd, ariſes from the Exceſs of the Preſſure of the Fluid upon the Fore-Part, above that Preſſure on the Hind-Part of the moving Bodies: and this Exceſs of Preſſure of Bodies in Fluids will not only raiſe a Motion in them, but will alſo act on the Bodies themſelves, by retarding their Motion, according as it is greater or leſs, whence the Reſiſtances of Fluids ariſe; wherefore, the Reſiſtances of Fluids are as the Quantities of Matter they contain, or their Denſities, which alone can make the Exceſs greater or leſſer. It is true, there is a Reſiſtance in Fluids, which may ariſe from their Elaſticity, Glutinouſneſs, and the Friction of their Parts, *&c.* This Reſiſtance may be leſſen'd, and, in a great Meaſure, remov'd by the Change of the Figure and Size of their Parts. But theſe Conſiderations have no Place in any of the Fluids of our Syſtem, wherein Experiments have been made; it having been always found, that their Reſiſtances were proportional to their Denſities. So that no Subtilization, Diviſion of Parts, or Refining, can alter their Reſiſtances, theſe depending entirely on their Denſities, or *Vires Inertiæ*, that is, the Quantities of Matter they contain; and the moſt ſubtile *Æther* would give the ſame Reſiſtance to a Projectile, as Mercury, if the Denſity or Quantity of Matter were the ſame in the firſt as the laſt: For, that being ſuppos'd, the Exceſs of the Preſſure or Weight on the Fore-Part, above that on the Hind-Part of the Projectile, would be the ſame in both, on which alone the Reſiſtances of both depend; ſince it is Weight alone, that is, Matter, that can produce Preſſure in inanimate Bodies, *Vide Newt. Schol. Prop. XL. lib.* II. *2d. Edit.* From which it is plain, that if Bodies be ever ſo porous, and fill'd with Fluids ever ſo ſubtile, yet, if there be no Vacuities without Matter entirely, theſe porous Bodies muſt be equally heavy with the moſt compact ones, ſince the Fluids, requir'd to fill theſe Pores, muſt be equally heavy with the ſolid Body, and both muſt contain an equal Quantity of Matter, if there be no Vacuities; all Fluids reſiſting, that is, indeed, weighing, in Proportion to the Quantities of Matter they contain. If, therefore, there be no Vacuities, all Bodies muſt be equally heavy; which being contrary to Experience, there is a Neceſſity of admitting Vacuities, to account for the different Weights of Bodies.

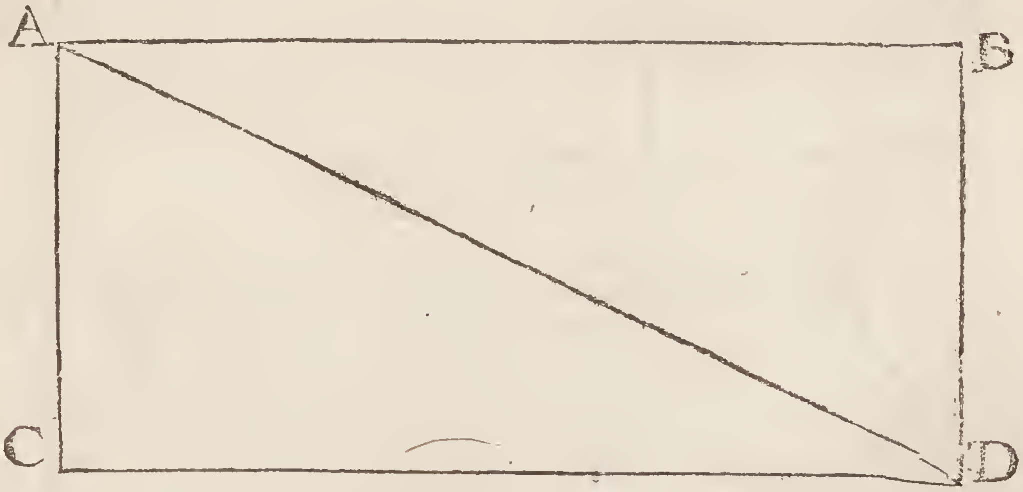
II. *The Changes made in the Motions of Bodies are always proportional to the impreſs'd moving Force, and are produced in the ſame Direction with that of the moving Force.*

Effects are always proportionable to their adequate Cauſes; and, if any Degree of Force produce any Degree of Motion, a double Degree of the ſame Force will produce a double Degree of Motion, and a triple a triple, and ſo on: and this Motion muſt proceed in the ſame Direction with that of the moving Force, ſince from this only the Motion ariſes; and becauſe, by the former Law, Bodies in Motion cannot change their Direction, of themſelves, ſo that unleſs ſome new Force alter its Courſe, the Body muſt proceed in the ſame Direction with that of the moving Force. And, if the Body was before in Motion, the Motion ariſing from this impreſs'd Force, if in the ſame Direction, does ſo much increaſe the former Motion; if it has a contrary Direction, it deſtroys a Part of the former Motion, equal to that which is impreſs'd; when it has a Direction oblique to that of the former Motion, it is either added to, or ſubſtracted from the former Motion, according as the Motion, ariſing from a Compoſition of thoſe two, is determin'd.

Corol. Hence it is evident, that, in the preſent Conſtitution of Things, there can be no perpetual Motion. By a perpetual Motion, I mean, an uninterrupted Communication of the ſame Degree of Motion, from one Part of Matter to another in a Circle: not as Bodies put in Motion do for ever continue in the ſame, except ſo far as they are reſiſted or ſtopped by other Bodies; but a Circulation of the ſame Quantity of Motion, ſo that it perpetually returns undiminiſh'd upon the *firſt Mover*. For, by this Law, the Motion produc'd is but proportionable to the generating Force; and all Motions on this Globe being perform'd in a reſiſting Fluid, *viz.* the Air, a conſiderable Quantity of the Motion muſt be ſpent in the Communication, on this *Medium*, and conſequently, it is impoſſible the ſame Quantity of Motion ſhould return undiminiſh'd upon the *firſt Mover*, which is neceſſary toward a perpetual Motion. Moreover, the Nature of material Organs is ſuch, that there is no avoiding a greater or leſſer Degree of Friction, tho' the Machine be form'd according to the exacteſt Principles of Geometry and Mechanicks, there being no perfect Congruity, nor exact Smoothneſs in Nature; the Manner of the Coheſion of Bodies, the ſmall Proportion the ſolid Matter bears to the Vacuities in them, and the Nature of the conſtituent Particles of Bodies, not admitting the ſame. Beſides, how very imperfect our moſt finiſh'd mechanick Performances are, an ordinary *Microſcope* will eaſily diſcover. Now, theſe Things muſt very conſiderably diminiſh the communicated Force, ſo that it is impoſſible there ſhould be a perpetual Motion, unleſs the communicated Force were ſo much greater than the generating Force, as to recompenſe the Diminution made therein by all theſe Cauſes, ſo that the impreſs'd Motion may return undiminiſh'd to the *firſt Mover*. But that being contrary to this Law, it is clear, that the Motion muſt continually decreaſe, 'till it at laſt ſtops, and conſequently, there can be no perpetual Motion in the preſent State of Things.

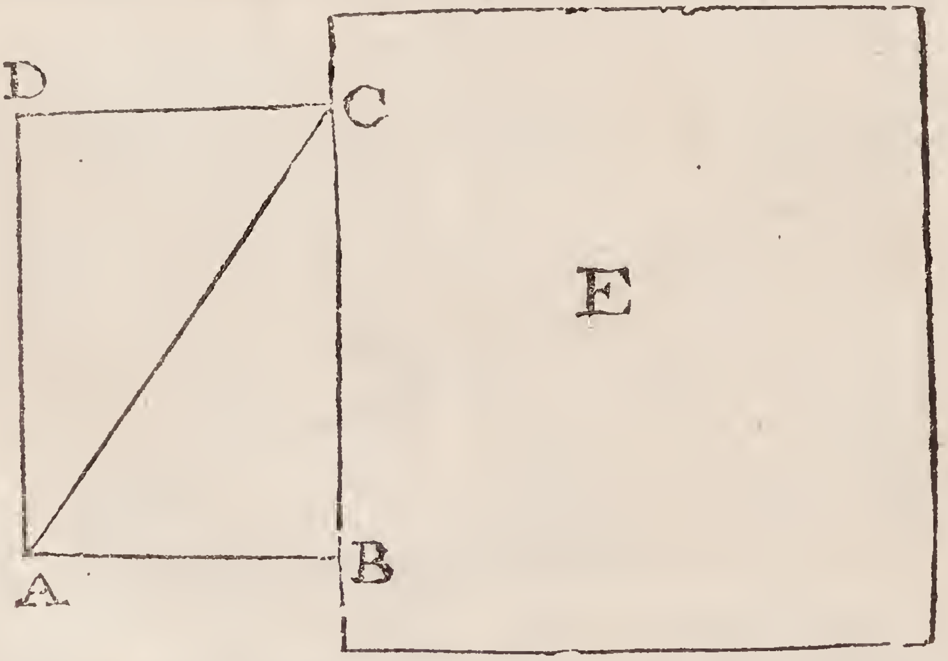
III. *Repulſe or Re-action is always equal to Impulſe or Action, or the Action of two Bodies upon one another is always equal, but with a contrary Direction*; i. e. *The ſame Force, with which one Body ſtrikes upon another, is return'd upon the firſt by that other: but theſe Forces are impreſs'd with contrary Directions.*

Whatever preſſes or draws another, is as much preſs'd or drawn by that other; if one preſſes a Stone with his Finger, the Stone preſſes his Finger again. If an Horſe draw forward a Stone by a Rope, the Stone does equally draw back the Horſe; for the Rope, being equally diſtended both Ways, acts upon both equally. If one ſtrike an Anvil with an Hammer, the Anvil ſtrikes the Hammer with equal Force. The Steel draws the Magnet as much as the Magnet does the Steel, as is evident, by making both ſwim in Water. So in pulling a Barge to Land by a Rope, the Bank pulls the Barge as much as the Barge does the Bank: And, in the Deſcent of heavy Bodies, the Stone attracts the Earth as much as the Earth does the Stone; *i. e.* the Earth gravitates toward the Stone, as much as the Stone does toward the Earth. And the Motions, produc'd by both theſe Gravitations, are equal in both, only the Stone is altogether inconſiderable, in reſpect of the Bulk of the Earth; and conſequently, the Velocity of the Earth's Motion toward the Stone is inconſiderable, in reſpect of the Stone's Motion toward the Earth; and therefore, the Motion of the Earth toward the Stone is inſenſible. And univerſally in all the Actions of Bodies, if a Body act on another, and change its Motion any Manner of Way, that other will make the ſame Change in the Motion of this Body with a contrary Direction, ſo that by theſe Actions there are made equal Changes, not of the Velocities, but of the Motion; for, the Changes made on the Velocities, in contrary Directions, are in a reciprocal Proportion to the Bodies.



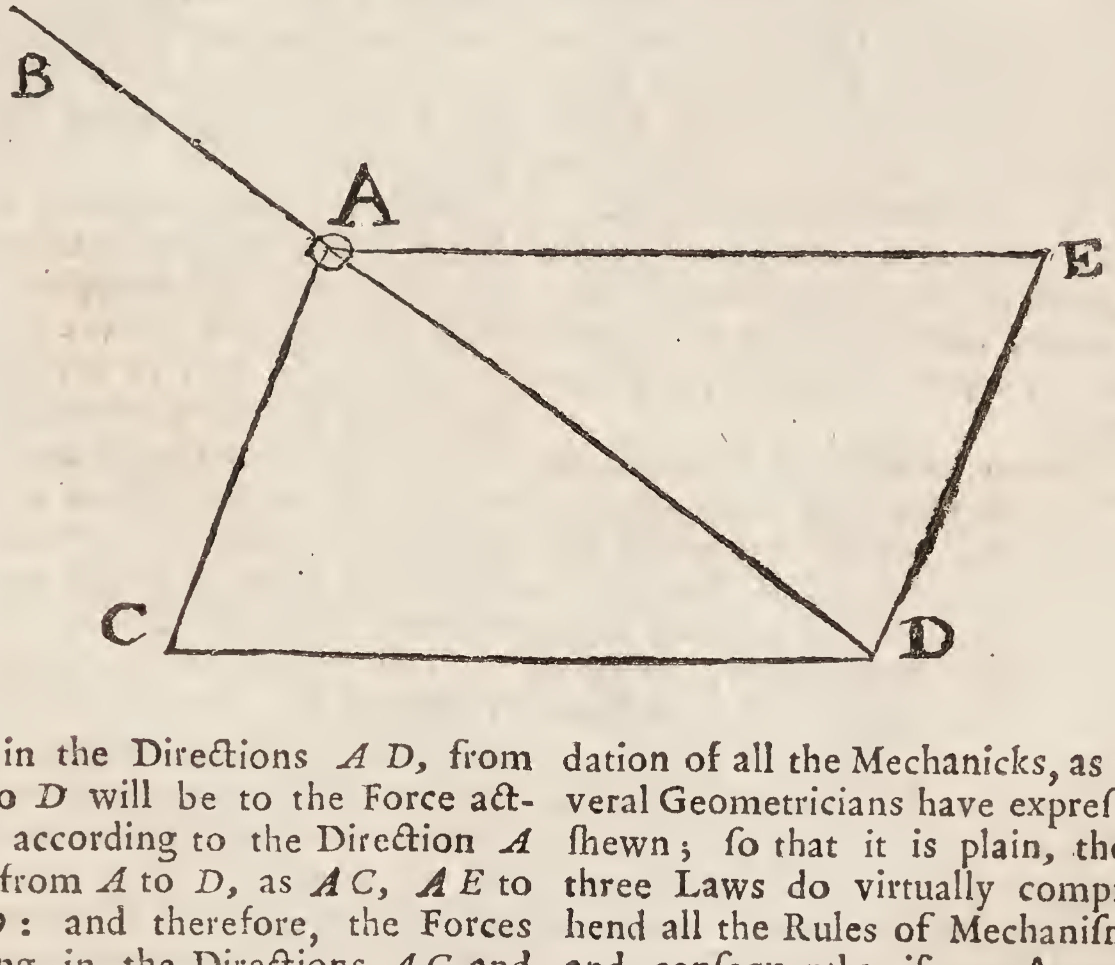
Corol. 1. If a Body, *A*, be impell'd by two different Forces, one in the Direction *A B*, with the Velocity *M*; another in the Direction *A C*, with the Velocity *N*; make *A B* to *A C*, as *M* to *N*; compleat the Parallelogram *A B C D*, the Diagonal of which is *A D*. The Compoſition of both theſe Forces will make the Body deſcribe the Diagonal *A D*, and in the ſame Time as it would have deſcrib'd either of the Sides; for, becauſe the Force, whoſe Velocity is *N*, acts in the Direction *A C*, parallel to *B D*, it will not in the leaſt hinder or deſtroy the Velocity in the other Force, by which it tends to the Line *B D*. Wherefore, the Body will reach *B D* in the ſame Time, whether the Force, whoſe Velocity is *N*, be impreſs'd or not; and therefore, in the End of this Time, it muſt be found ſomewhere in *B D*: In like Manner, the Force, whoſe Velocity is *M*, acts in the Direction *A B*, parallel to *C D*, and therefore, will not hinder the Velocity in the other Force in proceeding to *C D*, and the Body will reach *C D* in the ſame Time, whether the Force, whoſe Velocity is *M*, act or not: and conſequently, in the End of the ſame Time, it muſt be ſomewhere in *C D*, but it cannot be found in *B D* and *C D* both, but at the Point *D*; therefore, *&c.*

Corol. 2. From theſe Laws, and their neceſſary Conſequences, all the Rules of Bodies, aſcending or deſcending in vertical Lines, may be deduced; as alſo, the Rules of the Congreſſes and Reflections of two Bodies, as the Geometricians have ſhewn. From the preceding *Corollary*, the Method of compounding and reſolving Motions in any given Directions may be drawn: For Example, (ſee the former Figure) the Compoſition of the direct Force *A D*, of any oblique ones, ſuch as *A B* and *B D*, as alſo the Reſolution of the direct Force into any oblique ones, ſuch as *A B*, and *B D*, and likewiſe the *Ratio* of an oblique Force to move a Body, to that of the ſame Force coming with a perpendicular Direction to move the ſame Body; for Example (ſee the following Figure) let an oblique Force, as *A C*, be impreſs'd upon the Body *E* in *C*, at the Point *C* erect a Perpendicular *C D*, and from *A* let fall a Perpendicular upon *C D*, and another upon *C B*; then, by the former *Corollary*, the Force *A C* may be reſolv'd into the two Forces *A D* and *A B*, of which only *A B* has any Energy to move the Body *E*; wherefore, the oblique Force *A C* is to the ſame Force coming with a perpendicular Direction, as *A B* to *A C*, or as the Sine of the Angle of Incidence *A B* to the *Radius A C*. The ſame is true of the Energy of an oblique Stroke upon the Body *E*, to



to that of the ſame ſtriking perpendicularly.

From the ſame preceding *Corollary*, it follows, that if a Body *A* be impell'd or drawn by three different Forces in three different Directions, *A B*, *A E*, *A C*, ſo that the Body yields to none of them, but continues *in Equilibrio*, theſe three Powers are to one another, as three right Lines drawn parallel to their Directions, and terminated by their mutual Concourſes. If *A D* repreſent the Force by which the Body *A* is impell'd from *A* to *B*, then will the ſame *A D* repreſent the contrary equal Force, whereby it is impell'd from *A* to *D*. But. by the former *Corollary*, a Force, as *A D*, impelling from *A* to *D*, is equipollent to two others, acting in the Directions *A C*, *A E*; to which the other, impelling from *A* to *D*, is as *A D* to *A C*, and *A E* or *C D*, reſpectively. So likewiſe, two Forces acting in the Directions *A C*, *A E*, and being equipollent to the Force acting in the Directions *A D*, from *A* to *D* will be to the Force acting according to the Direction *A D*, from *A* to *D*, as *A C*, *A E* to *A D*: and therefore, the Forces acting in the Directions *A C* and *A E*, and equipollent to the Force acting in the Direction *A D*, are to this Force acting in the Direction *A D*, as *A C*, *A E*, or *C D* to *A D*; that is, if a Body be urged by three different equipollent Powers in the Directions *A B*, *A C*, *A E*, theſe three Forces ſhall be to one another, as *A D*, *A C*, *A C D* reſpectively, *q. e. d.* And this ſingle Propoſition is the Foundation of all the Mechanicks, as ſeveral Geometricians have expreſsly ſhewn; ſo that it is plain, theſe three Laws do virtually comprehend all the Rules of Mechaniſm; and conſequently, if any Appearance contradict theſe Laws, or their neceſſary Conſequences, it is not to be mechanically accounted for.



Naviculare Os, is the third Bone in the Foot, and lies between the *Aſtragalus* and the three *Oſſa Cuneiformia*; thus call'd from *Navis*, a Ship, which it has ſome Reſemblance to in its Shape: For which Reaſon likewiſe, it is ſometimes call'd *Cymbiforme,* from *Cymba,* a Boat, and *Forma,* Shape. It has behind it a large *Sinus,* which receives the fore convex Head of the firſt; and, before it is convex, diſtinguiſh'd into three Heads, which are receiv'd into the *Sinus*'s of the *Oſſa Cuneiformia*.

Nauſea, Loathing; a Symptom well known to attend many Diſorders of the Stomach; and the Cure muſt, therefore, have Regard to the Cauſe.

Nebula, ſtrictly ſignifying a Cloud, is figuratively apply'd to Appearances, having Likeneſs thereunto in the human Body, as to Films upon the Eyes; as alſo, in the ſame Senſe as *Molecula* is us'd for a peculiar Quality in the Urine.

Necromancy, hath been a Juggle eſpous'd by ſome Enthuſiaſtick Phyſicians, much the ſame as we commonly expreſs by Sorcery, or Witchcraft.

Nectar, a fictitious Name of the Poets for what they fancy the Gods to drink; which has given Occaſion for whimſical Perſons to recommend ſeveral Liquors under the ſame Appellation, thinking thereby to enhance their Reputation.

Nenufar, or *Nenuphar,* an obſolete Term for Water-Lillies; whence the Oil made of them is, by ſome Writers, call'd *Oleum Nenupharinum*.

Nepenthe, was a Name firſt given to an Opiate or Laudanum, by *Theodorus Zwingerus,* from the great Opinion he had of its giving Eaſe in all Manner of Pain; the Word importing as much, from the Privative νὴ, *non* or *abſque,* without, and πένθος, *Luctus,* Sorrow.

Nephritis, or

Nephriticus Dolor, from νεφρος, *Ren,* a Kidney; is the Diſtemper call'd the *Stone*; becauſe that Part is reckon'd to be principally the Seat, or in Fault. Hence,

Nephriticus, ſometimes ſignifies a Patient in ſuch a Circumſtance. And,

Nephriticks, are thoſe Medicines which are good againſt ſuch a Diſtemper, by their Power in diſſolving or breaking ſtony Concretions in thoſe Parts.

Nerve. A Nerve is a long and ſmall Bundle of very fine Pipes or hollow Fibres, wrapp'd up in the *Dura* and *Pia Mater*; which laſt not only covers them all in common, but it alſo incloſes every Fibre in particular.

The Medullary Subſtance of the Brain is the Beginning of all the Nerves; and 'tis probable, that each Fibre of the Nerves anſwers to a particular Part of the Brain at one End, and to a particular Part of the Body at its other End, that, whenever an Impreſſion is made upon ſuch a Part of the Brain, the Soul may know that ſuch a Part of the Body is affected.

The Nerves do ordinarily accompany the Arteries through all the Body, that the animal Spirits may be kept warm, and moving, by the continual Heat and Pulſe of the Arteries. They have alſo Blood-Veſſels, as the other Parts of the Body: theſe Veſſels are not only ſpread upon their Coats, but they run alſo amongſt their medullary Fibres, as may be ſeen amongſt the Fibres of the *Retina*: Wherever any Nerve ſends out a Branch, or receives one from another, or where two Nerves join together, there is generally a *Ganglio,* or *Plexus,* either leſs or more, as may be ſeen at the Beginning of all the Nerves of the *Medulla*

Spinalis, and in other Places of the Body.

The Nerves are divided into thoſe which come immediately out of the Skull, and thoſe which come out between the *Vertebræ.* The firſt Sort came from the *Medulla Oblongata,* which has been already deſcrib'd, and they are ten Pair.

The firſt Pair are call'd *Nervi Olfactorii.* They ariſe from the Baſis of the *Corpora Striata,* and, paſſing through the little Holes of the *Os Cribriforme,* are ſpread on the Membrane which covers the *Os Spongioſum.*

The ſecond are call'd *Optici.* They ariſe, partly from the Extremities of the *Corpora Striata,* and partly from the *Thalami Nervorum Opticorum,* which laſt they almoſt embrace; from thence approaching one another, they unite above the *Cella Turcica,* and immediately dividing again, they paſs through the foremoſt Holes of the *Os Sphenoides* into the Orbit, where piercing the Globe of the Eye, the medullary Fibres are ſpread upon the glaſſy Humor.

The third are call'd *Oculorum Motores.* They ariſe from the *Medulla Oblongata* on each Side of the *Infundibulum,* and the carotidal Arteries lie between them; from thence paſſing through the *Foramina Lacera* of the *Os Sphenoides,* they give a Branch, which, with a Branch of the fifth Pair, forms a conſiderable *Plexus,* which ſends out ſeveral Twigs which embrace the Optick Nerve, and are ſpent on the Tunicles of the Eye. They give a Branch to the Muſcles, call'd *Attollens, Deprimens,* and *Obliquus Minor* of the Globe.

The fourth Pair are call'd *Pathetici,* that ariſe from a ſmall medullary Cord that is behind the *Teſtes*; they go down upon the Sides of the *Medulla Oblongata*; and paſſing under the *Dura Mater* by the Sides of the *Cella Turcica,* they grow through the *Foramina Lacera,* and are wholly ſpent on the *Obliquus Major.*

The fifth Pair riſe from the Fore-Part of the *Proceſſus Annularis.* They are the biggeſt Pair of the Brain. They give Nerves to the *Dura Mater.* Each of them divides into three Branches, of which the foremoſt is call'd *Ramus Opthalmicus*; becauſe it paſſes thro' the *Foramen Lacerum* into the Orbit, where it divides into two Branches. The firſt ſends out a Branch which joins a Branch of the *Motores,* and forms the *Plexus Opthalmicus.* The reſt of this firſt Branch paſſes over the Globe of the Eye, gives ſome Twigs to the *Glandula Lachrymalis,* and goes out at the Hole of the *Os Frontis* above the Circumference of the Orbit, where it is diſtributed in the Skin and frontal Muſcles. The ſecond Branch of the *Ramus Opthalmicus* goes under the Muſcle *Superbus,* and paſſes out at the Hole call'd *Orbiter Internus,* and is diſtributed in the internal Noſe.

The ſecond Branch of the fifth Pair, which paſſes out at the third Hole of the *Os Sphenoides,* divides into three Branches, of which one pierces the Hind-ſide of the *Os Maxillare,* and gives Twigs to the Teeth of the upper Jaw; all the reſt of it comes out at the Hole in the Fore-ſide of the ſame Bone, under the Orbit, and is diſtributed into the Cheeks and Noſe. Another paſſes under the *Proceſſus Zygomaticus,* and is diſtributed in the temporal Muſcle. And the third is diſtributed in the Palate and Muſcles of the *Pharynx*.

The third Branch of the fifth Pair paſſes through another Hole of the *Os Sphenoides*, and then it divides into two Branches; the firſt of which is again divided into four Branches, of which the firſt paſſes between the *Condyle* and the *Corone* of the lower Jaw, to the *Maſſeter*. The ſecond is diſtributed in the *Crotaphites*. The third paſſes under the *Proceſſus Zygomaticus* to the *Buccinator*, Glands of the Cheeks, and upper Lip. And the fourth paſſes from behind the *Condyle* of the lower Jaw, where it joins the *Portio dura*, over the Jaw, and is diſtributed in the Face. The ſecond Branch is divided into three others: The firſt paſſes between the *Pterygoidæus Externus* and *Internus*: And, towards the Angle of the lower Jaw, it ſends out a Branch which makes the *Chorda Tympani*, which goes alſo to the Muſcles of the *Malleolus*, and then it joins the *Portio dura* before it comes out of the *Cranium*; the reſt is ſpread on the Chin. The ſecond goes along the Sides of the Tongue, and ſends out ſeveral Branches which join the ninth Pair. It gives alſo ſome Twigs to the *Glandulæ Sublinguales*, to the Muſcles of the Tongue and *Os Hyoides*. The third goes to the Teeth of the lower Jaw by the Holes in its In-ſide.

The ſixth Pair of Nerves riſe from the Sides of the *Proceſſus Annularis*. This is a ſmall Nerve which paſſes ſtrait through the *Foramen Lacerum*, and is wholly ſpent on the *Muſculus Abducens*. But, a little before it enters the Orbit, it caſts back a Branch which alone makes the Root of the Intercoſtal Nerve. It paſſes out of the Skull by the ſame Paſſage the Carotidal Artery enters. As ſoon as it is come out of the Skull, it, with a Branch of the tenth Pair, and with the firſt and ſecond *Vertebræ* of the Neck, forms a large *Plexus* called *Cervicalis*. Below this, it receives a Branch made of a Twig of the tenth Pair, and of the firſt of the Neck. As it deſcends, above the *Muſculus Scalenus*, and, below the eighth Pair, it receives a Branch from each of the vertebral Nerves. When it comes to the *Clavicula*, it divides into two Branches, of which one paſſes above the Axillary Artery, and the other under it, and then they immediately join again. They, with a Branch of the firſt Pair of the Back, form a pretty large *Plexus* at this Place; and ſometimes before (for it obſerves no Regularity) it caſts out a Branch, which with a Branch of the eighth Pair forms the *Plexus Cardiacus*: then it goes down the Cavity of the *Thorax*, under the *Pleura*, near the *Vertebræ*; and, as it paſſes by, it receives a Branch from every Pair of the Back, by which it grows bigger and bigger. As it goes out of the *Thorax*, it divides into ſeveral Branches, of which the three Superior in the right Side from the *Plexus Hepaticus*, and in the left the *Plexus Splenicus*. Theſe *Plexus*'s furniſh Nerves to the Kidnies, to the *Pancreas*, to the Caul, to the lower Part of the Stomach, to the Spleen, to the Liver, Meſentery, and the Inteſtines; and their Branches form a large Net upon the meſenterick Arteries, called *Plexus meſentericus*. The inferior Branches, as they go down upon the *Vertebræ* of the Loins receive a Branch from the firſt of the Loins, and they ſend out Branches which join thoſe of the ſuperior Branches which go to the Guts, and which form the Net upon the meſenterick Arteries.

Then they go down into the Baſon, and form a large *Plexus* above the ſtrait Gut to which it gives Nerves; as alſo to the Bladder, *Veſiculæ Seminales* and *Proſtatæ* in Men, and to the Womb and *Vagina* in Women.

The ſeventh Pair is the *Nervus Auditorius.* It ariſes from the Hind-Part of the *Proceſſus Annularis.* It enters the Hole of the inner Proceſs of the *Os Petroſum.* It divides into two Branches; that, which is ſoft, is called *Portio Mollis,* and it is diſtributed, into the Labyrinth, *Cochlea* and Membranes which cover the Cavities of the Ear. That, which is hard, is called *Portio Dura*; it goes out of the Ear by that Hole which is between the *Proceſſus Maſtoides* and *Styloides*; it divides into two Branches, of which one goes to the Muſcles of the Tongue, or *Os Hyoides,* and it gives a ſmall Branch to the eighth Pair. The other is diſtributed in the external Ear, Noſe, Lips, and Cheeks.

The eighth Pair is the *Par Vagum:* It riſes from the Sides of the *Medulla Oblongata* behind the *Proceſſus Annularis,* by ſeveral Threads which join together and go out by the ſame Hole that the *Sinus Laterales* diſcharge themſelves into the *Jugulares.* It is joined by a Branch of the *Nervus Spinalis,* or *Acceſſorius Williſii,* and by a ſmall Branch of the *Portio Dura.* Immediately after it comes out of the Skull, it gives a ſmall Branch to the *Larynx,* as it goes down the Neck, above the Intercoſtal Nerve, by the Side of the Internal Carotid. At the Axillary Artery, it caſts back the recurrent Nerves, of which the right embraces the Axillary Artery, and the left the *Aorta.* Theſe two Branches aſcend on each Side of the *Trachea Arteria* to the *Larynx,* where they are ſpent on the Muſcles of the *Larynx,* and Membranes of the *Trachea.*

Then the eighth Pair, after it has entered the Cavity of the *Thorax,* ſends out two Branches, which, with the Branches of the two Intercoſtals, from, a little above the Heart, between the *Aorta* and *Trachea,* the *Plexus Cardiacus,* which gives a great Number of ſmall Branches to the *Pericardium* and Heart; particularly very many creep along the *Aorta* to the left Ventricle. The eighth Pair gives alſo ſeveral Branches to the Lungs, which accompanying the *Bronchi,* then it deſcends upon the *OEſophagus,* and is ſpread upon the Stomach, and ſome Twigs go to the concave Side of the Liver, as has been ſaid already.

With this Nerve, it is uſual to deſcribe another, which paſſes out of the Skull at the ſame Hole with it. It is called *Nervus Acceſſorius Williſii.* It ariſes from the *Medulla Spinalis,* about the Beginning of the ſixth Pair of the Neck. As it aſcends to the Head, it receives on each Side a Twig from the firſt five Pair of Nerves of the Neck, as they riſe from the *Medulla Spinalis.* Then it enters the Skull, and paſſes out of it again with the eighth Pair, and is wholly ſpent upon the *Muſculus Trapezius.*

The ninth Pair riſes from the *Proceſſus Olivares* of the *Medulla Oblongata.* It paſſes out of the Skull by its own proper Hole in the *Os Occipitis.* As it paſſes to the Tongue, it gives ſome Branches to the Muſcles of the *Os Hyoides,* but its Trunk is diſtributed in the Body of the Tongue, and its Extremities from the *Papillæ Rotundæ* of the Tongue.

The tenth Pair riſes by ſeveral ſmall Threads, from the Beginning of the *Medulla Spinalis*; then aſcending

ing a little, it goes out at the ſame Hole of the *Dura Mater,* at which the vertebral Artery enters, paſſing between the Protuberance of the *Occiput* and the firſt *Vertebra* in the *Sinus,* which we have obſerved in this *Vertebra.* Then it gives a Branch to the firſt Pair of the Neck which goes to the *Plexus Cervicalis.* It gives another to the ſecond Pair, and a third to the Intercoſtal Nerve, and then it is all ſpent on the oblique Muſcles of the Head.

The Nerves which come out between the *Vertebræ* are thirty Pair. They ariſe from the *Spinalis Medulla,* which (as we ſaid before) is a Continuation of the *Subſtantia Medullaris,* or *Medulla Oblongata* of the Brain, contained in the great Holes of the *Vertebræ.* Its internal Subſtance is mixed in ſeveral Places with a Subſtance like the cortical Subſtance of the Brain, (as *Malpighius* has obſerved.) From the firſt *Vertebra* of the Neck to the firſt of the Loins, it is divided by the *Pia Mater* into the right and left Side, not quite through its Middle, but the Depth of a Line or two in its fore and Hind-part. From the firſt of the Loins to its Extremity, it is divided into a great Number of Fibres, which ſeparate from one another, if they be ſhaken in warm Water. This Part, becauſe of its Reſemblance, is called *Cauda Equina.* 'Tis covered by four Membranes, of which the firſt is that which lines the great Holes of the *Vertebræ.* The ſecond is the *Dura Mater,* which has two *Sinus*',s one on each Side of the *Medulla :* They reach from the *Occiput* to the laſt of the *Os Sacrum.* The third is the *Pia Mater.* And the fourth, called *Arachnoides,* is a very fine Membrance, which contains only the Bundles of Fibres which make the vertebral Nerves.

All the Nerves, as they riſe out of the *Medulla Spinalis,* are by the *Pia Mater* divided into two Plans, which lie one above the other ; and, as ſoon as the Nerves are come out of the *Vertebræ,* they ſend a Branch to one another, where they make a little *Ganglio.*

The Nerves of the *Vertebræ* are thirty Pair ; ſeven of the Neck, twelve of the Back, five of the Loins, and ſix of the *Os Sacrum.* They come out at the Holes in the Sides of the Bodies of the *Vertebræ,* which are taken notice of in the Preparations of thoſe for a Skeleton.

The firſt Pair of the Neck is ſpread in the Muſcles of the Head and Neck. It joins a Branch of the tenth Pair, which goes to the *Plexus Cervicalis,* and it gives another Branch to the Intercoſtal Pair below the *Plexus.*

The ſecond Pair of the Neck gives alſo Nerves to the Muſcles of the Head and Neck, and to the external Ear and Skin of the Face.

The third gives ſome Branches to the Neck and Head. It ſends out the *Nervus Diaphragmaticus,* being joined by a Branch from the fourth Pair. This Nerve goes ſtrait down the Cavity of the *Thorax,* and is ſpread on the Midriff.

The fourth, fifth, ſixth, and ſeventh, give ſome Branches to the Muſcles of the Neck and Head ; but their greateſt Branches, together with a Branch of the firſt of the Back, enter the Arms. As ſoon as they enter, they join all together, and then they immediately divide into five Branches. The firſt and innermoſt goes all to the Skin, which covers the inner and Forepart of the Arm. The ſecond goes down by the inner Protuberance of the *Humerus*, by the Benders of the Fingers; and in the Palm of the Hand it divides into five Branches, of which one goes to each Side of the Little and Ring Finger, and the fifth to the external Side of the Middle Finger. The third accompanies the Artery between the *Sublimis* and the *Profundus*: It divides alſo into five Branches, of which one goes to each Side of the Thumb and Fore-Finger, and the fifth to the internal Side of the middle Finger. The fourth paſſes under the *Biceps* to the outer Side of the Arm, and Back of the Hands, to be diſtributed into the Fingers, as the foregoing. The fifth is ſpent on the Muſcles on the Inſide of the Arm. All theſe Nerves, except the firſt, give Branches to the Muſcles as they paſs by.

The firſt Pair of the twelve Pair of the Back gives a Branch, as is ſaid, to the Arms. The twelfth Pair is diſperſed in the Muſcles of the lower Belly, and all the reſt run along the *Sinus* in the under Side of each Rib, giving Nerves to all the Muſcles that lie upon the Ribs and *Vertebræ*.

The firſt and ſecond Pair of the Loins give Nerves to the Muſcles of the lower Belly, to the *Inguen*, to the Yard, and to the Parts contained in the Baſon. The third and fourth give ſome Branches to the ſame Parts; but their Trunks join and make the *Nervus Anterior Femoris*, which is diſperſed in the Fore-part of the Thigh. This Nerve ſends a Branch through the Hole in the *Iſchium*, which is ſpent in the *Triceps*. The laſt of the Loins, with a Branch of the fourth, enter the Thigh.

The Nerves of the *Os Sacrum* come not out at the Holes on its Back-ſide, but at thoſe in its Fore-ſide; and the laſt comes out between the Extremity of the *Os Sacrum* and the *Os Coccygis*.

The firſt four Pair of the *Os Sacrum* give ſome Twigs to the Parts in the Baſon; but their great Branches, with the laſt, and a Branch of the fourth of the Loins, make the *Nervus Sciaticus*, which is the greateſt Nerve in the whole Body. As this Nerve paſſes between the *Gracilis Poſterior* and the *Semi-membranoſus*, it gives a Branch to the Skin. When it comes to the Ham, it divides in two, of which one goes along the *Perone* to the upper Part of the Foot, and gives a Branch in both Sides of each Toe. The other paſſes under the *Gemelli* by the inner Ankle, and is diſtributed in like manner to the Toes in their under Sides.

The fifth and ſixth of the *Os Sacrum* are very ſmall; they are diſperſed in the Sphincter, and Bladder, and natural Parts.

Nervines, Remedies for Diſorders of the Nerves.

Nervous Fluid. See *Brain*.

Neuroticks, from νεῦρον, *Nervus* a Nerve: the ſame as *Nervines*. Hence,

Neurologia, is a Deſcription of the Nerves: And,

Neurotomy, the Anatomy of the Nerves: And

Neurotomus, the Anatomiſt who is ſo employed.

Nictitans Membrana, the winking Membrane, is a thin Membrane which ſeveral Creatures have to cover their Eyes with, and ſhelter them from Duſt, and guard them from Thorns, or exclude Part of the Light when it is too ſtrong; for it is ſo thin, that they can ſee indifferently through it.

Nidus, a Neſt, is, in a figurative Senſe, ſometimes uſed to expreſs the

Seat of a Diſeaſe, eſpecially when it is confin'd to any particular Part.

Nihili Album, the ſame as *Pompholyx*, which ſee.

Nipple. See *Breaſts*.

Niſus, is a Term us'd much, of late, in Philoſophy and Mechanicks, for an Inclination of one Body towards another, as *Niſus in Contactum*, the ſame as Attraction.

Noctiluca, from *Nox*, Night, and *luceo*, to ſhine, are all ſuch Bodies as ſhine, or give Light in the dark.

Nodulus, or *Nodus*, a Nodule, or little Bag. Suitable Ingredients are thus diſpos'd of, to be ſuſpended in Juleps, Apozems, Diet-Drinks, &c. *Nodus* is alſo ſometimes us'd in the ſame Senſe, as *Ganglio*; which ſee.

Noli-me-tangere, touch me not, is a tetterous Eruption, thus call'd, from its Soreneſs, or Difficulty of Cure; but either ſeems upon ſo whimſical a Foundation, that it is not much Matter which.

Non-Naturals. Phyſicians reckon theſe to be ſix, *viz.* Air, Meat and Drink, Sleep and Watching, Motion and Reſt, Retention and Excretion, and the Paſſions of the Mind. See theſe explain'd in *Sanctorius*'s *Medicina Statica*, and *Wainwright*'s *Non-Naturals*.

Non-organical, or *in-organical*, is us'd for a Part that is not fitted, of itſelf, to perform any Action, as a Tendon, Griſtle, Bone, &c.

Noſe. See *Naſus*.

Notæ Maternæ, Mother's Spots, the ſame as *Nævus*; which ſee.

Nothæ Coſtæ, or *falſæ*, falſe or baſtard-Ribs. See *Coſtæ*.

Nothus, is alſo ſometimes us'd for the Back-part of the Cheſt.

Nubeculæ, and *Nubes*, Clouds. See *Enæorema*.

Nucha, the Hinder-Part or Nape of the Neck; call'd alſo *Cervix*, which ſee.

Nuciferous, from *Nux*, a Nut, and *fero*, to bear: Botaniſts call all Trees thus which bear Nuts.

Nucleus, ſignifies properly the Kernel of a Nut; whence, in a figurative Senſe, enucleate is us'd to expreſs unfolding or explaining any Thing to its moſt remote Difficulties or Abſtruſities.

Nutrimentum, Nouriſhment, is what ſupplies

Nutrition. What comes under this Term, is two-fold: Firſt, All that paſſes in the firſt Scene, from Maſtication to the Chyle's Entry into the Blood, is thus call'd. And, Secondly, The Appoſition of new Parts in the Room of thoſe wore off by Action. The firſt is thus carry'd on: the Parts of Food being divided by Maſtication, and moiſten'd with Spittle, that it may be render'd ſofter, in order to undergo a further Comminution, is thruſt down into the Stomach; wherein, by the Aſſiſtance of the continual Motion ariſing from the muſculous Tunicks of the Stomach, and of Reſpiration, by which the Diaphragm alternately preſſes the Stomach downwards, the Parts of the Food ſoften'd by the Spittle, and other ſerous Liquors from the Glands, is ſhook about, ground, and divided into yet ſmaller Parts, until it acquires ſuch a Fineneſs as is requiſite, together with the glandulous Fluids, and Liquors drank down, for the compoſing that which is call'd Chyle. But here is to be taken Notice, that the Parts of the Food are not diſſolv'd into eſſential Parts, as ſome call them, or Elements, whether chymical, or any other, by the Aſſiſtance of any Ferment in the Stomach; that is to ſay, by a Separation of ſome Parts of different Kinds combin'd together, and an Union of other Parts be-

before in Separation, as it happens in all Fermentation of Wine, wherein tartarous Particles, before united with others, are ſeparated; and Particles of Phlegm and Oil, before in Separation, are brought nearer together, and form a true Spirit. But by the Concoction that is perform'd in the Stomach, the Food is divided into integral Parts, not differing from what they were before, but in obtaining leſſer Bulk; in the ſame Manner altogether as Coral is ground upon a Marble with Water, and reduced into an impalpable Powder, whoſe Parts are only ſmall Pieces of Coral, and not any Principles into which Coral is reſolv'd. For the Proof of this, there is not Need of any other Argument, than that in the Stomach and Inteſtines of the larger Fiſh, which devour and digeſt the leſſer, the Chyle is nothing elſe but a Liquor fill'd with the Fibres of the devour'd Fiſh, as is eaſy to be diſcern'd with a Microſcope; or the ſmall Parts of Fibres no Way differing from the larger, (that is, indigeſted Pieces of Fleſh) but in Magnitude. The Chyle thus elaborated in the Stomach by its alternate Contractions, and the Force of the neighbouring Muſcles, is thrown out into the Inteſtines; at its Entrance into which, it is diluted with the Bile and pancreatick Juice: Which Liquors undergo no Manner of Efferveſcence with the Chyle, or with one another, but are ſmoothly and quietly mix'd therewith, and with each other, as appears by many Experiments; but, by their Means, the Chyle is render'd more fluid. Hence it is, that the Parts of the Food, in ſome Meaſure diſſolv'd by the Motion of the Stomach, but not ſufficiently ſeparated from each other, thro' Want of a due Quantity of Fluid, every one yet being, in ſome Meaſure, in Contact with one another, paſs over the *Pylorus* into the Guts; and when theſe greater or leſs digeſted Particles cannot, by reaſon of their Magnitude, be ſtrain'd in any conſiderable Quantity into the Lacteals, they are yet thruſt further into the inteſtinal Tube, and therein putrefy, ſince they are out of the Verge of Circulation, which commences at the Lacteals: For all Things, as the Fleſh of dead Creatures, Herbs, *&c.* which are capable of Putrefaction out of the Animal, are capable of Digeſtion in it. Hence it follows, that Digeſtion is much more effectually and expeditiouſly perform'd in the Day-time, or when we are awake, than in the Night, or during Sleep; becauſe, while we wake, we breathe thicker, and the Diaphragm and Muſcles of the Abdomen, and even the whole Body is more exercis'd, and the Stomach is oftener compreſs'd. It alſo follows, that by gentle walking, or while we exerciſe ourſelves in any moderate Motion, Digeſtion is more effectually and expeditiouſly perform'd, than while we ſit in Idleneſs and without Motion; and ſtill much better, than when we ſit hard at Study, becauſe by this the Mind is ſo diverted, that our Reſpiration then is rarer, even than in our Sleep, and the Muſcles are thereby leſs contracted. And, that we digeſt better in Winter than in Summer, is alſo a Confirmation hereof; becauſe in the Winter, to drive away the Senſe of Cold, we are oftener put upon Exerciſes, and greater Activity of Body, than in the Summer-Seaſon: as likewiſe, becauſe the Muſcles and ſolid Parts are more tenſe, and conſequently, ſtronger in their Contractions and

Attritions. But, as for any Ferment in the Stomach, whether it be Spittle or Serum, ouzing out from the Glands of the Stomach, it cannot contribute any Thing to the Digeſtion of the Food, any further than by ſoftening it, whereby it is capable of being further divided. Neither do any Liquors flow into the Stomach, in order to promote Digeſtion; but Digeſtion, that is, the Motion of Swallowing, Chewing, and of the Stomach, are the Cauſe why theſe Liquors are preſs'd out, and that they drain into the Stomach. For, that thoſe Liquors contribute nothing to Digeſtion, is manifeſt from hence, that if Herbs or Meat be mix'd with them in any convenient Place, as warm as the Stomach, but without Motion, they will never be changed into Chyle; ſo that it is aſtoniſhing, that any ſhould aſcribe to the Serum of the Blood, as it is excern'd by the Glands, a Faculty of changing ſolid Meats into the Form of Chyle, when it is evident, that Serum is not a fit *Menſtruum* for the Solution of Bread, Meat, or Herbs. But this whole Affair will be much better underſtood, from conſidering *Boyle*'s Machine for Digeſtion, deſcrib'd by *Papin*; (ſee *Digeſtor*) wherein, without the Help of any Ferment, but, by the Aſſiſtance only of Warmth, and the Preſſure of rarefy'd Air confin'd, Bones and Fleſh, with the Addition of a ſmall Portion of Water, are turn'd into a Jelly; where nothing is wanting to its being made real Chyle, but the rough Superficies of a Body to grind, and often ſhake it about.

The Chyle, being thus made, waſhes over the *Pylorus* into the inteſtinal Tube, where by its Periſtaltick Motion (which ſee) and by the Preſſure of the Diaphragm, and the Muſcles of the Abdomen, the thinner Parts are ſtrain'd thro' the narrow Orifices of the lacteal Veins, while the groſſer Parts continue their Progreſs downwards until they are quite ejected by Stool. What paſſes through the Lacteals is carry'd by them into the Glands of the Meſentery; where they receive a fine thin Lymph, from the Lymphaticks, whereby the Chyle is diluted ſo as to paſs eaſier the reſt of its Courſe: For beyond the firſt Glands they unite in larger Canals, and thoſe in ſtill larger, until at laſt it arrives to the common Receptacle, which is a Kind of Baſon form'd for it by the Union of the lacteal and lymphatick Veſſels. From thence in one Duct it aſcends into the *Thorax*; and ſometimes dividing about the Heart, it immediately unites again; and creeping along the Gullet, it paſſes on to the left Subclavian Vein, where by one or two Mouths it pours in its Contents, and there mixes with the venal Blood returning from all Parts of the Body.

But in the ſecond Acceptation of this Term, wherein it is underſtood of the Blood's nouriſhing all the Parts of the Body, ſuch Kind of Nutrition is perform'd by a ſecretory Duct, ariſing from the Termination of an Artery, and carrying a ſuitable Portion of the Blood to every Part to be nouriſh'd; ſo that every Point in the Body muſt be a Termination of a ſecretory Duct through which a proper Part of the Blood is brought, in order to ſupply that Part of the Body. For further Satisfaction herein, turn to *Accretion*, *Digeſtion*, and *Sanguification*.

Nyctalops, νυκταλωπία, is ſaid of thoſe who ſee better in the Night than Day-time.

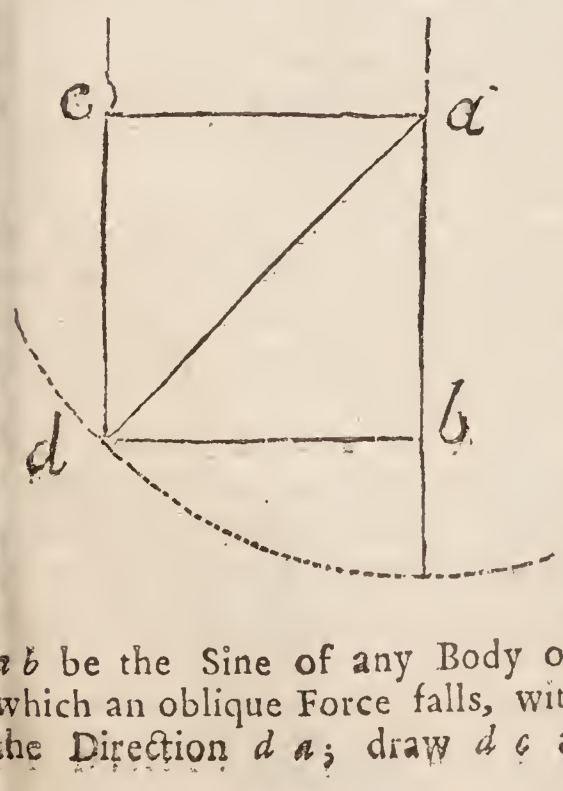
Nymphæ. See *Generation Parts of, proper to Women*.

O.

Obeſity, Fatneſs or Corpulency, from *Obeſus*, or *Obeſitas*.

Obleſion, from *ob*, againſt, and *lædo*, to hurt, is an Injury done to any Part.

Oblique, ſlantways, is a Term much us'd in Mechanicks, to ſignify Directions that deviate from perpendicular to parallel, the Percuſſions of all Bodies being much influenced, according to the Degree of Obliquity in which the moving Body is directed; a perpendicular Incidence (which ſee) giving the greateſt Stroke, and ſuch Strokes decreaſing in Proportion to the moving Body's Declenſion from ſuch a Direction. The *Ratio*, which an oblique Stroke bears to a perpendicular one, may, by this Diagram, be eaſily underſtood to be, as *the Sine of the Angle of Incidence is to the Radius.* Let *a b* be the Sine of any Body on which an oblique Force falls, with the Direction *d a*; draw *d c* at right Angles to *d b*, a Perpendicular let fall from *d* to the Body to be mov'd, and make *a d* the *Radius* of a Circle: 'tis plain, that the oblique Force *d a*, by the Laws of Compoſition and Reſolution of Motions, will be reſolv'd into the two Forces *d c*, and *b d*; of which *d c*, being parallel to *a b*, hath no Energy or Force to move that Body, and conſequently, *d b* expreſſes all the Power of the Stroke or Impulſe on the Body to be mov'd: but *d b* is the right Side of the Angle of Incidence *d a b*; wherefore, the oblique Force *d a*, to one falling perpendicularly, is as the Sine of the Angle of Incidence to the *Radius*. *Q. E D.*



Obliquus major Muſculus, the greater oblique Muſcle; and the

Obliquus minor, the leſſer; are deſcrib'd under *Eye*, which ſee.

Obliquus inferior, is a Muſcle of the Head ariſing fleſhy from the external Part of the ſpinal Proceſs of the ſecond *Vertebræ* of the Neck, cloſe by the Origination of the *Rectus major*; and, being dilated into a fleſhy Belly, paſſes obliquely to its Inſertion at the tranſverſe Proceſs of the firſt, where the former Muſcle begins. When this acts on either Side, the tranſverſe Proceſs of the firſt *Vertebræ* of the Neck is mov'd towards the Spine of the ſecond; which hath given Occaſion to ſome to reckon it amongſt the Muſcles of the Neck.

Obliquus ſuperior, is a Muſcle of the Head, which ariſes fleſhy from the Back-Part of the tranſverſe

Proceſs of the firſt *Vertebræ* of the Neck, and in its ſomewhat oblique Aſcent becometh a fleſhy Belly, and, leſſening itſelf again, is inſerted into the *Os Occipitis* laterally. By this, together with its Partner (they never acting ſeparately) the Head is mov'd backwards on the firſt *Vertebræ*.

Obliquus deſcendens, is one of the firſt Muſcles that appears upon the *Abdomen*. It takes its Origination from the two laſt true, and the five falſe Ribs, by five or ſix Digitations, the four uppermoſt of which lie between the Teeth of the *Serratus Anticus major*; its Fibres, deſcending obliquely, are inſerted all along the *Linea alba* under the *Muſculi Recti*, to the upper and fore-Part of the Spine of the *Ilium*, and to the fore-Part of the *Os Pubis*. It has a large *Aponeuroſis*, or tendinous Expanſion, which covers both itſelf, and the *Muſculi Recti*.

Obliquus aſcendens, has its Fibres diſpos'd in a contrary Manner, croſſing the former obliquely; they ariſe with a large and fleſhy Beginning from the Circumference of the *Ilium* and from the *Os Pubis*. Above they are fix'd to the cartilaginous Part of the falſe Ribs, and they are inſerted all along the *Linea alba*.

Obliquus Auris; ſee *Ear*. There are alſo

Oblique Muſcles belonging to the *Eye*, which ſee under that Word.

Obſervation, in Medicine, requires the Obſerver to give an accurate Hiſtory of the Diſeaſe he would deſcribe, with Regard to its Cauſes, Nature, and Effects; to give an exact Account of the ſeveral Things which appear'd either beneficial, or diſadvantageous; which Diſtemper is either left to Nature, or treated by the Rules of Art; and laſtly, he ought to give the *Phænomena* which preſent themſelves upon Diſſection of the Body, if the Diſeaſe proves mortal.

Obſtetrix, a Nurſe, or Midwife.

Obſtruction, ſignifies the blocking up of any Canal in the human Body, ſo as to prevent the flowing of any Fluid through it, on Account of the increas'd Bulk of that Fluid, in Proportion to the Diameter of the Veſſel; and hence

Obſtruents, are ſuch Things as obſtruct the Paſſages.

Obturator internus, is a Muſcle that comes from the internal Circumference of the Hole that is between the *Iſchium* and *Pubis*; and, paſſing through the Sinuoſity of the *Iſchium*, it is inſerted into the Dent of the great *Trochanter*. Its Tendon lies between the *Gemini*; it turns the Thigh to the Outſide.

Obturator externus, comes from the external Circumference of the ſame Hole as the former; it embraces the Neck of the Thigh-Bone, and paſſes under the *Quadratus* to the ſmall Cavity of the great *Trochanter*.

Occidental, Weſtern; from *Occidens*, the Weſt, is generally us'd to diſtinguiſh the natural Productions of that Country, in Oppoſition to the Produce of the Eaſt, which is call'd *Oriental*.

Occipitalis, and its Partner, are ſhort, but broad, thin, fleſhy Muſcles, ſituated on the *Occiput*, from whence they derive their Names. When they act, they pull the hairy Scalp backwards.

Occipitis Os. See *Cranium*.

Occiput, the Hinder-Part of the Skull. See *Cranium*.

Occult Quality, is a Term that has been much us'd by Writers that had not clear Ideas of what they undertook to explain; and which ſerv'd, therefore, only for a Cover to their Ignorance. See *Quality*.

Occult Diſeaſes, is likewiſe from the ſame Mint as the former, *occultus* ſignifying hidden; and therefore, nothing can be underſtood, when a Perſon ſpeaks of an hidden Diſeaſe, but that it is a Diſeaſe he does not underſtand.

Oculares Dentes, the ſame as *Cynodentes*; which ſee, and alſo *Teeth*.

Oculi; Botaniſts ſometimes uſe this in the ſame Senſe as *Gemmæ*, Buds.

Oculiſt; one who profeſſes to cure Diſtempers of the Eyes.

Oculorum Motores. See *Motorii.*

Oculus, the *Eye*; which ſee.

Odontagogos, ὀδονταγωγὸς, was antiently the Name of an Inſtrument to draw Teeth; one of which, made of Lead, *Forreſtus* relates to have been hung up in the Temple of *Apollo*, denoting, that ſuch an Operation ought not to be made, but when the Tooth was looſe enough to draw with ſo ſlight a Force as could be apply'd with that.

Odontalgia, from ὀδοὺς, *Dens*, a Tooth, and ἀλγέω, *doleo*, to be in Pain, is the Tooth-ach; and

Odontica, Odonticks, are Medicines againſt ſuch a Pain.

Odontoides, from the former Derivation, and εἶδος, *Forma*, Shape, are ſuch Proceſſes of the Bones as reſemble the Shape of a Tooth, as of the ſecond *Vertebra*, *&c.*

Odontolithos, from the former Derivation, and λίθος, *Lapis*, a Stone; is that ſtony Concretion which grows upon the Teeth.

Odoratus, and

Odoriferous, the latter from *Odor*, Smell, and *fero*, to carry; are ſuch Things as are remarkable at a Diſtance by their Scent, but generally apply'd to Sweets.

OEconomy, from οἶκος, *Domus*, an Houſe, and νέμω, *diſtribuo*, to diſtribute, is ſtrictly, the Management of Family-Concerns; but, in a figurative Senſe, is frequently enlarged, among other Things, to the Mechaniſm and Functions of an human Body: So that animal OEconomy includes all that concerns the human Structure in a State of Health.

OEdema, from οἰδέω, *tumeo*, to ſwell, ſignifies properly any Tumor; but is now moſt commonly by Surgeons confin'd to a white ſoft, inſenſible Tumor, proceeding from cold and aqueous Humors, ſuch as happen to hydropick Conſtitutions. There is a Tumor ſomewhat more fleſhy, and nearer to a *Sarcoma*, which *Severinus* and *Hildanus* both deſcribe, under the Name of *OEdemoſarca*.

OEſophagus, from οἰσὸς, *Vimen*, a Wicker-Basket, from ſome Similitude in the Structure of this Part to the Contexture of that, and φάγω, *edo*, to eat, is the Gullet; which is a long, large, and round Canal, that deſcends from the Mouth, lying all along between the Wind-Pipe and the Joints of the Neck and Back, to the fifth Joint of the Back, where it turns a little to the right, and gives Way to the deſcending Artery; and both run by one another, 'till, at the ninth, the *OEſophagus* turns again to the left, climbs over the *Aorta*, and deſcending above it, it pierces the Midriff, and

and is continu'd to the left Orifice of the Stomach.

The Gullet is compoſed of three Coats. The firſt and outmoſt is only a common membranous Integument, which ſeems to be a Continuation of the *Pleura.* The ſecond is thick and fleſhy, and conſiſts of two Orders of muſcular Fibres, longitudinal and circular, the firſt covering the laſt; theſe thruſt the Aliments down into the Stomach. In Brutes, becauſe the Situation of the Neck conduces little to the Deſcent of the Aliments, therefore, theſe Fibres run in two cloſe ſpiral Lines, which croſs one another: But in Men, whoſe Poſition is erect, the very Gravity of the Aliments helps their Deſcent. The third and laſt lines the Cavity of the Gullet. It's compoſed of white and ſlender Fibres diverſly interwoven. As its upper End, it is continued to the Membrane that covers the Mouth and Lips; therefore, in vomiting theſe Parts are affected. Its lower End covers the left Orifice of the Stomach two or three fingers Breadth. The Surface of this Membrane is beſmeared with a ſoft and ſlimy Subſtance, which probably comes from ſome ſmall Glands that lie between this Coat and the ſecond. The upper End of the Gullet is called *Pharynx.* It has two Pair of Muſcles for its Motion; the firſt is the *Stylo-pharyngæus*: This is a ſmall and round Muſcle, which ariſes fleſhy from the Root of the *Proceſſus Styloides*; and deſcending obliquely, it is inſerted into the Sides of the *Pharynx.* When this Muſcle acteth, it pulleth up and dilateth the *Pharynx*, in Deglutition. The ſecond is the *OEſophagus.* Its Fibres have ſeveral Directions; its ſuperior Fibres ariſe from the *Proceſſus Pterigoidæus* of the *Os Sphenoides*, and from the *Cornua* of the *Os Hyoides*, and run obliquely to the Back-part of the *Pharynx.* The Fibres, which are below theſe, ariſe from the Sides of the *Cartilago Scutiformis*, and run tranſverſely to the Middle of the Back-part of the *Pharynx*, where both ſuperior and inferior Fibres, from both Sides, unite and form a tendinous Line. When this Muſcle acts, it draws the Back-part of the *Pharynx* to its Fore-part; by which it not only ſtraitens it, for the depreſſing of the Aliment, but it compreſſes alſo the *Tonſillæ*, which ſend out their Liquor which lubricates the Aliment, whereby it glides the more eaſily down into the Stomach. There are two lymphatick or veſicular Glands, which are tied on the Back-ſide of the Gullet about the fifth *Vertebra* of the Back, by the Branches of Nerves which come from the eighth Pair. Theſe two Glands are like two Kidney-beans tied together; they receive Veins and Arteries from the *Coronariæ*; and they have lymphatick Veſſels which diſcharge themſelves into the thoracick Duct. *Partholine* remarks, that theſe Glands ſometimes ſwell ſo big, as to hinder the Deſcent of the Aliments into the Stomach.

The Gullet, at its upper End, receives an Artery from the *Aorta*, and it ſends a Vein to the *Azygos*: At its lower End, it has an Artery from the *Cæliaca*, and it gives a Vein to the *Coronaria* of the Stomach. Its Nerves are from the eighth Pair. The Uſe of the Gullet is to carry the Meat from the Mouth into the Stomach, by means of the

Muſcles of the *Pharynx* and fleſhy Fibres of the *Gula*, which perform its periſtaltick Motion.

OEſipus, ὀισυπος, is frequently met with in the antient Pharmacy, for a certain oily Subſtance, boiled out of particular Parts of the Fleece; as what grows on the Flank, Neck, and Parts moſt uſed to ſweat.

OEſtrum Veneris, the Heat of *Venus*, or Love: The *Clitoris* is thus called from the laſcivious Titillations it is capable of.

Offa alba : *Van Helmont* thus calls the white Coagulation which ariſes from a Mixture of rectified Spirit of Wine and of Urine; but the Spirit of Urine muſt be diſtilled from well fermented Urine; and that muſt be well dephlegmated, elſe it will not anſwer.

Officinal, from *Officina*, a Shop; any Thing that is uſed in, or belonging to a Shop: Thus officinal Plants and Drugs are thoſe uſed in the Shops.

Oleaginous, from *Oleum*, Oil and *ago*, to compel; is ſuch a Subſtance as is oily, or of a Conſiſtence approaching thereunto.

Olecranium, the ſame as *Ancon*, and *Anconæus*; which ſee.

Olfactorii Muſculi, or *Nervi*; ſmelling Nerves. See *Nerve*.

Olivaria Corpora, are two Protuberances in the under Part of the Brain, placed on each Side the *Corpora Pyramidalia*, towards the lower End, having their Name from their Figure, which is like that of an Olive. See *Brain*.

Omaſus. See *Abomaſus*.

Omentum, the Cawl, called alſo *Reticulum*, from its Structure, reſembling that of a Net. When the *Peritonæum* is cut, as is uſual, and the Cavity of the *Abdomen* laid open, the *Omentum*, or Cawl preſents itſelf firſt to View. This Membrane, which is like a wide and empty Bag, covers the greateſt Part of the Guts. Its Mouth is tied on the right Side to the Hollow of the Liver, on the left to the Spleen, backwards to the back Part of the *Duodenum*, and that Part of the *Colon* which lies under the Stomach, and forwards to the Bottom of the Stomach and *Pylorus*. Its Bottom is looſe, and being tied to no Part, but floating upon the Surface of the Guts below the Navel, was the Reaſon why the Cawl was by the *Greeks* called Ἐπίπλοον. Sometimes it deſcends as low as the *Os Pubis*, within the Productions of the *Peritonæum*, cauſing an *Epiplocele*.

Now the Cawl is a moſt delicate and fine double Membrane, interlarded, for the moſt part, with a great deal of Fat, which lines each Side of its Blood-Veſſels. Theſe are Veins from the *Portæ*, called *Gaſtro-Epiplois dextra & ſiniſtra*, Arteries from the *Cæliaca*. The intercoſtal Nerve and the *Par Vagum* ſend it ſeveral Twigs of Nerves. All theſe Veſſels, with ſome ſmall Glands accompanying one another, ſpread their Branches very curiouſly upon the Cawl, and even to the minuteſt Twig; they run between two Lines of Fat, which are bigger or ſmaller, according to the Weight of the Cawl. It has been ſometimes found to weigh five Pounds, but ordinarily it does not much exceed half a Pound. Where there are no Veſſels, the Membranes of the Cawl are very fine and tranſparent. They give ſeveral Uſes to the Cawl, as to cover the Bottom of the Stomach and the Inteſtines; that, by cheriſhing their Heat, it may promote Digeſtion, and help the Concoction of the Chyle; to ſtrengthen and ſuſtain the Veſſels which go from the Spleen to the

Stomach, Inteſtines, Pancreas, and Liver, to keep a Store of the Fat, that it may be received by the Veins and Lymphaticks, for the Uſe we have ſpoken of; to greaſe the Superficies of the Guts, for facilitating their periſtaltick Motion.

Omoplata, or *Homoplata*, from *ὦμος*, *Humerus*, the Shoulder, and *πλατὸς*, *Latus*, the Side; is the ſame as *Scapula*, the Shoulder-Blade; which ſee.

Omphalocele from *ὀμφαλὸς*, *Umbilicus*, the Navel, and *κήλη* *Tumor*, a Swelling; is a Rupture of the Navel: For which the Term

Omphalos, is often uſed.

Omphacion, or *Omphacium*, *ὀμφάκιον*, was uſed for the Juice of ſour Grapes; and by ſome latterly is applied to that of wild Apples, or Crabs, commonly called Verjuice.

Opacity, and *Opaque*, from *opacus*, obſcure, or dark; is a Quality in Bodies ariſing from the Curvity of their Pores, whereby they will not admit the Rays of Light thro' them, when held up againſt the Light, as tranſparent Bodies do. Sir *Iſaac Newton* ſhews, that the Opacity of all Bodies ariſeth from the Multitude of Reflexions cauſed in their internal Parts: And he ſhews alſo, that between the Parts of opaque and colour'd Bodies, there are many Spaces either empty, or repleniſhed with Mediums of different Denſities; and that the true or principal Cauſe of Opacity is the Diſcontinuity of their Parts; becauſe ſome opaque Bodies become tranſparent by filling their Pores with any Subſtance of equal, or almoſt equal, Denſity with their Parts. Thus Paper dipped in Water or Oil, Linnen-Cloth, oiled or varniſhed, and many other Subſtances ſoaked in ſuch Liquors, as will intimately pervade their little Pores, become by that means more tranſparent than otherwiſe; as on the contrary the moſt tranſparent Subſtances may, by evacuating their Pores, or ſeparating their Parts, be rendered ſufficiently opaque, as Salts or wet Paper, by being dry'd, Horn by ſcraping, Glaſs by being powdered or flawed, Water by being formed into ſmall Bubbles, either alone in the Form of Froth, or by ſhaking it together with Oil of Turpentine, or ſome other convenient Liquor with which it will not perfectly incorporate. But, however, to render Bodies opaque and colour'd, their Interſtices muſt not be leſs than of ſome definite Bigneſs; for the moſt opacous Bodies that are, if their Parts be ſubtilly divided (as when Metals are diſſolved in acid *Menſtruums*) become perfectly tranſparent. And on this Ground it appears, why Water, Glaſs, Salt, and ſome Stones are tranſparent, for they are full of Pores and Interſtices, as other Bodies are; but yet their Parts and Interſtices are too ſmall to cauſe Reflexions in their common Surfaces: Wherefore white Metals become opaque, not from their Denſity alone, but from their Parts being of ſuch a Bigneſs as fits them to reflect the White of the firſt Order.

Opener. See *Deobſtruent*.

Operation: The Proceſſes in Pharmacy, ſeveral manual Parts of Surgery, as alſo the Working or Efficacy of Medicines, are often thus termed.

Ophthalmia; an Ophthalmy is an Inflammation of the *Tunica Adnata* of the Eye, which is accompanied with redneſs, heat, pain, and ſwelling; and it ariſes from the Blood ſtagnating in the capillary Arteries. The Cure conſiſts in the ſame Management, as in all other Inflammations: Hence,

Ophthalmicks, are Medicines uſed in Diſtempers of the Eyes.

Opiates: This Name has by ſome Authors been given to all Medicines that have Opium in their Compoſition, as the officinal Capitals; but it is more properly given to ſuch Medicines as have no other Intention but to procure Sleep. See *Narcoticks.*

Opodeldoch, is the Name of an antient compound Plaiſter, which hath undergone various Alterations, as it hath paſſed through the Hands of *Diſpenſatory* Writers; and our *College* have now thought fit to give it a Place in their laſt Emendation.

Optick Nerve. See *Nerve.*

Opticks, is a mathematical Science that treats of the Sight in general, and of every thing that is ſeen in direct Rays; and explains the ſeveral Properties and Effects of Viſion in general, and properly of that which is direct and ordinary: For when the Rays of Light are conſidered as reflected, the Science which reaches their Laws and Properties is called Catoptricks; and when the Refraction of Rays is conſidered, and the Laws and Nature of it explained and demonſtrated, the Science is called Dioptricks. So that Opticks comprehends the Whole; of which Catoptricks and Dioptricks are two Parts. See *Viſion.*

Orbicular Bone, is one of the Bones of the inward Ear, tied by a ſlender Ligament to the Sides of the *Stapes*; thus called from its Figure, *Orbis* ſignifying round, like a Globe. Hence alſo

Orbicularis Muſculus, which is a Muſcle that draws the Lips together, and is the ſame as *Oſculatorius,* the kiſſing Muſcle, becauſe it acts at that time. It is alſo called *Sphincter Labiorum.*

Orbicularis Palpebrarum, is alſo a thin fleſhy Muſcle whoſe Fibres do circularly ſurround the Eye-lids, and act as the preceding. See *Eye.*

Orbit, ſignifies the Round of any thing, whether concave or convex; but in Anatomy is moſt commonly uſed for the Cavity in which the Eye is placed.

Orbiter Externus. See *Maxilla Superior,* and *Head,* Holes in it.

Orexis, or *Orexia.* See *Anorexia,*

Organ, and

Organical Part, is that Part of an animal or vegetable Body which is deſigned for the Performance of ſome particular Action, in Oppoſition to Non-organical, which cannot, of itſelf, perform an Action. Thus the Organ of Sight is the Eye with all its Parts; the Organ of Hearing the Ear, *&c.*

Orgaſm; is an *Impetus,* or quick Motion of the Blood or Spirits, whereby the Muſcles are convulſed, or move with uncommon Force, from what Cauſe ſoever it proceeds; tho', by ὀργάω, the Ancients generally underſtood, an ungovernable Deſire of Coition, when the Seminal Veſſels were ſo turgid, as not to contain their Contents from involuntary Emiſſion.

Oriental, Eaſtern, any thing coming from that Part of the World.

Orthopnœa, ſtrictly ſignifies that Difficulty of Breathing, which ariſes from running or violent Exerciſe; and whatſoever occaſions the Blood to run ſlower through the Lungs, either by ſtraitening the Canals, or thickening the Blood, or by hindering the Motion of the animal Spirits, ſo that they cannot elevate the Breaſt, or cauſe the Blood to be more rarefied, or more in Quantity, ſo that there is not ſufficient Room to receive it into the Veſſels of the Lungs, muſt occaſion this Diſtemper. See *Aſthma.*

Orvietan, is uſed for a Medicine that reſiſts Poiſons, from a Mountebank at *Orvieto* in *Italy*, who firſt made himſelf famous by taking ſuch Things upon the Stage, after Doſes of pretended Poiſons.

Os a Bone. See *Bone.*

Oſcillation, is the Swinging of a Pendulum, whence *Borelli, de Motu Animalium*, applies it to the Motion of an Animal that has ſome Reſemblance thereunto.

Oſcitation, is a ſlight convulſive Motion of the Muſcles, which is commonly called Yawning or Stretching, as the Beginning of an Ague-Fit.

Oſcula, are any Openings of the Veſſels; as

Oſculum Uteri, is the Opening of the Womb.

Oſculatorius. See *Orbicularis.*

Os Orbiculare. See *Ear.*

Os Tincæ. See *Generation Parts of, proper to Women.*

Oſſa Innominata, are two large Bones ſituated on the Sides of the *Os Sarcum*; in a *Fœtus* they may be each ſeparated into three Pieces, which in Adults unite and make but one Bone, in which they diſtinguiſh three Parts. The firſt and ſuperior Part is called *Os Ilium*; the Inteſtine *Ilium* lieth between it and its Fellow. It is very large, almoſt of a ſemi-circular Figure, a little convex and uneven on its external Side, which is called its *Dorſum*; and concave and ſmooth on its internal Side, which is called its *Spine.* It is joined to the Sides of the three ſuperior *Vertebræ* of the *Os Sacrum* by a true Suture: It is larger in Women than in Men.

The ſecond is the *Os Pubis*, which is the inferior and Fore-part of the *Os Innominatum*; it is united to its fellow of the other Side by an intervening Cartilage, by which means it makes the Fore-part of the *Pelvis* or Baſon, of which the *Os Sacrum* is the Back-part, and the *Ilia* the Sides.

The third is the inferior and poſterior, called *Iſchium* or *Coxendix* it has a large Cavity called *Acetabulum Coxendicis*, which receives the Head of the Thigh-bone: the Circumference of this Cavity is tipt with a Cartilage called its *Supercilium*, where it joins the *Os Pubis*; it has a large Hole called *Foramen Iſchii & Pubis*, about the Circumference of which the Muſcles called *Obturator internus* and *externus* ariſe: And at its lower End it has a large Protuberance upon which we ſit, and from whence the Benders of the Leg ariſe. And a little above this, upon its Hinder-part, it has another ſmall acute Proceſs, betwixt which and the former Protuberance lies the *Sinus* of the *Iſchium*, thro' which the Tendon of the *Obturator internus* paſſes.

Oſſa Spongioſa. See *Ethmoides.*

Oſſification, is ſaid of the Bones, as in Children they harden from a ſofter cartilaginous Subſtance into one of the former Texture.

Oſteologia, Oſtrology from *ὀςὲον*, *Os*, a Bone, and *λέγω*, *narro*, to deſcribe; is a Diſcourſe or Deſcription of the Tones.

Ova, Eggs;

Ovarium, an Ovary; and

Oviducts, the ſame as Fallopian Tubes. See *Generation Parts of, belonging to Women.* Hence

Oviparous, from Ovum an Egg, and *Oario*, to bring forth, are all ſuch Creatures as lay Eggs, and are hatched from thence.

Ovum Philoſophicum, or *Chymicum*, is a Glaſs Body round like an Egg.

Oxycrate, from ὄξος, *Acetum*, Vinegar, is a Mixture of Vinegar and Water.

Oxycroceum, from the ſame as the foregoing, and κρόκος, *Crocus*, Saffron, is a Plaiſter in which there is much Saffron, but no Vinegar neceſſary, unleſs in diſſolving ſome Gums.

Oxymel, from the foregoing Derivation, and *Mel*, Honey, is a Mixture of Vinegar and Honey.

Ozæna, from ὄζω, *olfacio*, to ſmell rank, is an Ulcer in the Inſide of the Noſtrils that gives an ill Stench.

Oze, is ſometimes us'd to ſignify a Stench in the Mouth.

P.

P. Is put in Preſcription for a *Pugil*, which is the eighth Part of an Handful.

P. Æ. Is us'd to ſignify *Partes Æquales*, equal Parts of any Ingredients.

P. P. Is ſometimes us'd in Preſcription for *Pulvis Patrum*, Jeſuits-Powder, ſo call'd, becauſe they firſt brought it into *Europe*.

Pabulum, ſignifies, ſtrictly, the Food of Cattle, but is by *Willis*, and ſome late Writers, apply'd to ſuch Parts of our common Aliment, as is neceſſary to recruit the animal Fluids, as likewiſe to any Matter that continues the Cauſe of a Diſeaſe.

Pain. It is commonly laid down, that Pain is a Solution of Continuity, but this is not a good Definition; for it is the Senſe of a more violent and ſudden Solution of Continuity made in the Nerves, Membranes, Canals, and Muſcles. The Cauſes, therefore, of Pain, may be all ſuch Things as are able to diſtract the Parts of the Nerves or Membranes from one another. But there is nothing in the Compaſs of Nature which cannot do that, with whatſoever Figures or Properties it is endu'd: For, ſince ſomewhat may always be apply'd or added to another Body, ſuch a Body may increaſe into a Bulk too big to flow through a Canal of a given Diameter, and which will, therefore, require more Room: Wherefore, whilſt the Sides of a Canal are thruſt outward, beyond what they are us'd to be, that is, the Parts compoſing thoſe Sides, before contiguous, being looſen'd and mov'd away from one another; if that Body ſtrikes into thoſe Sides with a brisk *Impetus*, and that *Impetus* is continually renew'd, the Solution will be conſiderable, or the *Niſus* towards a Solution violent, or there will be Pain. Wherefore, the conſtituent Parts of Fluids being ſufficiently augmented in Dimenſion, and propell'd with a continually repeated *Impetus* againſt any Canal of our Body, may occaſion that Solution, in which conſiſts the Origin of

Pain. For it all comes to the ſame, whether ſome Parts are added to a Body, or the Parts of that Body are, by any Cauſe whatſoever, ſeparated to ſo great an Interval, towards the Sides of a Canal, as to conſtitute a Dimenſion equal to that which aroſe from the Addition of a new Part: For the Bulk may ſo far increaſe both Ways, that the natural Capacity of the Canal is not big enough to contain it without ſome violent Dilatation, and a Diſtraction of the Fibres conſtituting their Coats; and conſequently, Pain muſt follow. Further, as there may be always ſomewhat added to another Body, ſo from any Body may ſomewhat be alſo taken away; a Body ſo diminiſh'd in Dimenſion, and impell'd with a conſiderable *Impetus*, breaks thro' the Interſtices of thoſe Fibres, where it is leſs than the Capacity of ſuch Interſtices, and mov'd obliquely; becauſe the Superficies of the Fibres are not wont to be contain'd under geometrical right Lines, but to have Particles ſtanding out and prominent; and theſe it divides from one another. And thus any Body of whatſoever Figure may occaſion in us Pain, ſo that it be big enough to diſtend the Veſſels beyond their wonted Meaſure, or ſmall enough to enter the Pores in the Sides of a Canal, with an *Impetus* in the Manner intimated. And what is thus advanc'd, with Relation to Things within the Veſſels, may be eaſily apply'd to others out of the Veſſels.

Palatum, the Palate. See *Mouth*.

Palati Os. See *Maxilla ſuperior*.

Palatinæ Glandulæ, ſo *Steno* calls thoſe of the Tonſils, and Parts adjacent.

Palato-Salpingæus, call'd alſo *Muſculus Tubæ Novus Valſalvæ*, and *Pterygoſtaphilinus Externus*, is a Muſcle ariſing broad and tendinous from the Edge of the lunated Part of the *Os Palati*, ſeveral of its Fibres being ſpread upon the Membrane that covers the *Foramen Narium*; then growing into a ſmall thin Tendon, it is reflected about the Hook like the Proceſs of the inner Wing of the *Proceſſus Pterygöidæus internus*, and is inſerted carnous into all the membranous, fleſhy, and cartilaginous Parts of the Tube. It's us'd to dilate and keep open this Canal.

Palato-Staphilinus, the ſame as *Pterygoſtaphilinus internus*; which ſee.

Palindromia, from παλινδρομέω, *recurro*, *regurgito*; is us'd by *Hippocrates* for any Regurgitation of Humors to the more noble Parts; and ſometimes for the Return of a Diſtemper.

Palliation, is quieting Pain, and fending againſt the worſt Symptoms of a dangerous Diſtemper, when nothing can be directly levell'd at the Cauſe. And,

Palliatives, are Medicines for the foregoing Purpoſes.

Palma, is the Inſide of a Man's Hand. Hence,

Palmaris, is a Muſcle that ariſes from the internal Exuberance of the *Humerus*, and by a long and ſlender Tendon it paſſes above the annular Ligament to the Palm of the Hand, where it expands itſelf into a large *Aponeuroſis*, which cleaves cloſe to the Skin above, and to the Sides of the Bones of the *Metacarpus* below, and to the firſt Phalanx of the Fingers; by which Means it makes four Caſes for the Tendons of the Fingers to paſs through. This Muſcle is ſometimes wanting, but the *Aponeuroſis* is always there.

Palmaris Brevis, is a Muſcle that lies under the *Aponeuroſis* of the firſt. It ariſeth from the Bone of the *Metacarpus* that ſuſtains the little Finger, and from that Bone of the *Carpus* that lies above the reſt. It goes tranſverſly, and is inſerted into the eighth Bone of the *Carpus.* The firſt aſſiſts the Hand to graſp any Thing cloſely, and the ſecond makes the Palm of the Hand concave.

Palpebræ, Eye-lids. See *Eyes.*

Palpitation, is a beating or panting, and often us'd for that Alteration in the Pulſe of the Heart, upon Frights or any other Cauſes, as makes it felt; for the Conſtancy of a natural uniform Pulſe goes on without Diſtinction.

Palſy, is a Privation of Motion, or Senſe of Feeling, or both, proceeding from ſome Cauſe below the *Cerebellum,* join'd with a Coldneſs, Softneſs, Flaccidity, and at laſt, waſting of the Parts. Hence it appears, that the Brain, or *Cerebellum,* is not affected with a Palſy; and therefore, the internal Senſes, and the Motion of the Heart and *Thorax,* or the Pulſe and Reſpiration, are not neceſſarily interrupted or deſtroy'd. If this Privation be in all the Parts below the Head, except the *Thorax* and Heart, it is wont to be call'd a *Paraplegia*; if in one Side only, it is call'd *Hemiplegia*; if in ſome Parts only of one Side, it is wont to be call'd a particular *Paralyſis.*

There is a threefold Diviſion of a Palſy worth taking Notice of in Practice: the firſt is a Privation of Motion, Senſation remaining. Secondly, A Privation of Senſation, Motion remaining. And, Laſtly, A Privation of both together. The firſt is, when the Motion of all the Parts below the Head, or of ſome of the Parts only, except that of the *Thorax* and Heart, is taken away, the Senſe of Feeling yet remaining. And that the Cauſe of this may be the more intelligible, we may remember, that by the tying a Ligament on any Artery, the Motion of that Part is deſtroy'd, to which that Artery is accuſtom'd to convey the Blood: From whence it follows, that the Blood, or ſome Parts of the Blood, are requir'd for muſcular Motion. But, concerning an Apoplexy, (which ſee) it was remark'd, that an Influx of the nervous Fluid into the Muſcles was likewiſe neceſſary to the Motion of its Parts: From whence it is eaſy to conclude, that, to the Production of Motion in any Part, there is neceſſarily requir'd a free Paſſage both of the Blood and animal Spirits into the Muſcles allotted for the Motion of that Part, that is, a Concourſe of both Fluids. But this Propoſition is alſo very certain, and neceſſary to be known, in order to the right underſtanding of this Affair:

Beſides the Conflux of the nervous and arterial Fluids for the moving any Parts, there is alſo requir'd a ſudden Rarefaction, or an Expanſion of them into Bubbles every Way, either of one, or other, or of both, as they flow into the Muſcle. And,

No Part can be moved, unleſs the Muſcle belonging to that Part be contracted in its Length: But a Muſcle cannot be contracted in Length, unleſs it be ſtretch'd in Breadth, and unleſs the ſolid Part of a muſcular Fibre is ſuddenly forced outward from the Quantity of Liquors flowing thereinto.

Hereupon a Reaſon may be given how a *Paralyſis* without Motion is brought about. Firſt of all, by too much Humidity ſtretching the Fibres in Length, Secondly, from cold Things that thicken the Juices, and hinder Rarefaction. Thirdly, from external Compreſſion. Fourthly, from hot Things which ſtraiten the ſupple Membranes and Veſſels. All theſe Cauſes affect the Blood or Muſcles; the former by thickening it, ſo that it cannot ſuddenly rarefy; and the latter, by relaxing them into too great a Length with too much Moiſture, or contracting them into too narrow Dimenſions by too much Heat. But the Senſation may yet be preſerv'd, becauſe, notwithſtanding all theſe Hindrances, the animal Spirits and Nerves may not be touched, or, as yet, at all affected. The Cauſes of the ſecond are all thoſe Things which ſo far thicken the animal Spirits in the Nerves, ariſing below the *Cerebellum*, that though indeed, they may flow into the Muſcles through the Nerves, and there, by the Occurſion of ſome Liquor ſecreted from the Blood, rarefy; yet they cannot alone flow in ſuch Quantities into the Nerves, as from a very ſlight Cauſe to undulate in Waves: Whence Senſation will ceaſe without loſing the Motion of the Part. The Cauſes of this Kind are alſo whatſoever render thoſe Nerves more lax and moiſt, and ſo leſs apt for lively Vibrations; the animal Spirits flowing in the mean time into the Muſcles: from whence Motion is perform'd without Senſation. From the Explanation of theſe two Kinds, it may be eaſy to underſtand the third, in which both Senſe and Motion are loſt, becauſe this is compounded of the other two; and the Cure is to be circumſtanced accordingly.

Panacea, was a Term firſt given, by *Galen*, to ſome Medicines he had a great Opinion of; the Word coming from *ϖᾶν*, *omnis*, all, and *ἀκέομαι*, *ſano*, to make well: And many Medicines, in the Chymical Pharmacy particularly, are now in the Shops under this Name, as the Conceits of their Inventors have been pleas'd to fix it upon them; but there has been ſo much Deceit herein, that the Term has almoſt loſt its Credit.

Panatella and *Panada*, or *Panata*, Panade, a Mixture of Bread and Water boil'd together, probably thus call'd, from *Panis*, Bread.

Panchreſtos, or *Panchreſton*, is of the ſame Signification as *Panacea*, but little us'd.

Panchymagoga, from *ϖᾶν*, *omnis*, all, *χυμὸς*, *Succus*, Humor, and *ἄγω*, *duco*, to lead or draw; is aſcrib'd to ſuch Medicines as are ſuppos'd to purge all Humors equally alike: but this is a Conceit now not minded.

Pancreas, from *ϖᾶν*, *omnis*, all, and *κρέας*; *Caro*, Fleſh, *quaſi* All-Fleſh. The *Pancreas*, or Sweat-bread, is a Gland of the conglomerate Sort, ſituated between the Bottom of the Stomach, and the *Vertebræ* of the Loins. It lies acroſs the *Abdomen*, reaching from the Liver to the Spleen, and is ſtrongly ty'd to the *Peritonæum*, from which it receives its common Membranes. It weighs commonly four or five Ounces. It is about ſix Fingers Breadth long, two broad, and one thick. Its Subſtance is a little ſoft and ſupple. Every little Gland has a ſmall excretory Veſſel, which, uniting all together, form one common Duct about the Bigneſs of a Quill, clear and tranſparent, like to a lymphatick Veſſel. This Duct runs all along the Middle of the *Pancreas*, and opens into the Cavity of the *Duodenum*, as its lower End, where there is a little Caruncle at its Orifice. Sometimes it joins the *Ductus communis Choledocus*, and then both open at one Orifice into the *Duodenum*. This Canal was firſt found by *Virtſungius*, and is call'd *Ductus Pancreaticus Virtſungii*.

The *Pancreas* receives Arteries from the *Cœliack*. Its Veins carry their Blood into the ſplenick Branch of the *Vena Portæ*, and the Intercoſtal furniſhes it with Nerves. The Uſe of the *Succus Pancreaticus* is to dilute the Chyle with the Liquor that is ſeparated in the Glands of the Guts, that it may the more eaſily enter the Mouths of the lacteal Veſſels.

Pancreas Aſſellii. See *Meſentery*, and *Lacteal Veins*.

Pandiculation, is the Reſtleſſneſs, Stretching and Uneaſineſs that uſually accompany the cold Fit of an intermitting Fever.

Panick. This Term ſeems to have its Original from the Stratagem of a great General, whoſe Name was *Pan*, and who contrived with a few Men to make ſuch Shouts, where the Diſpoſition of the Country and ſome Rocks favour'd the Sound, as made their Numbers appear ſo large to the Enemy, as terrify'd them from an advantageous Encampment: whence a falſe Fear ever ſince is call'd a Panick.

Panicula, the Panicle, is a Term in Botany, for a ſoft woolly Beard or String, on which the Seeds of ſome Plants do hang pendulous, as in Reeds, Millet, *&c.* Whence ſuch are call'd

Panniculated Plants.

Panniculus, ſignifies the ſame as *Membrana*, which ſee. Whence,

Panniculus Adipoſus, is the ſame as *Membrana Adipoſa*. And,

Pannicnlus Carnoſus, the ſame as *Membrana Carnoſa*. And,

Panniculus Nervoſus, the ſame as the preceding.

Papilionaceous. The Flowers of ſome Plants are thus call'd by Botaniſts, which repreſent ſomething of the Figure of a Butterfly with its Wings diſplay'd. And here the *Petala*, or Flower-Leaves, are always of a diform Figure. They are four in Number, but join'd together at the Extremities: One of theſe is uſually larger than the reſt, and is erected in the Middle of the Flower, and by ſome call'd *Vexillum*. The Plants, that have this Flower, are of the leguminous Kinds, as Peaſe, Vetches, *&c.*

Papillæ Cordis. See *Heart*.

Papillæ Inteſtinorum. See *Inteſtines*.

Papillæ Pyramidales. See *Lingua*.

Papillæ Renum. See *Kidnies*. Many other Parts of the Body are alſo call'd *Papillæ*, from their Likeneſs to a Nipple or Teat, this Word ſignifying ſo much.

Pappus, in Botany, is that ſoft light Down, which grows out of the Seeds of ſome Plants, ſuch as Thiſtles, Dandelyon, Hawkweed, *&c.* and which buoys them up ſo in the Air, that they can be blown any-where about with the Wind. And therefore, this diſtinguiſhes one Kind of Plants which is call'd *Papposa*, or *Pappi Floræ*.

Par Vagum. See *Nerve*.

Paracenteſis, from παρακεντέω, *compungo*, to pierce through, is that Operation, whereby any of the *Venters* are perforated to let out any Matter, as Tapping in a Tympany.

Paracmaſticos, and *Paracme*, ϖαρακμαστικὸς, παρακμὴ, expreſſes the Declenſion of any Diſtemper; as alſo, according to *Galen*, that Part of Life where a Perſon is ſaid to grow old, and which he reckons from 35 to 49, when he is ſaid to be old.

Paracynanche, the ſame as *Angina*, which ſee.

Paragoge, ſignifies that Fitneſs of the Bones to one another, as is diſcernible in their Articulation; and Bones which are thereby eaſier of Reduction, when diſlocated, are by *Hippocrates* call'd παραγωγότερα.

Paralyſis. See *Palſy*.

Paraphimoſis, from παρὰ, *circum*, about, and φιμόω, *obligo*, to bind; is a Fault in the Yard, when the Prepuce is ſo ſtrait, that it will not draw over the Glands: And this happens ofteneſt in Venereal Diſorders, where the Humors of a Gleet are ſo ſharp as to cauſe this Contraction. There is ſometimes a Neceſſity, in this Caſe, to ſnip, or cut it open, otherwiſe the Humors will be pent up under it, and do a great deal of Miſchief.

Paraphrenitis, is a Diſtemper of Kin to the Pleuriſy, and ſeated in that Part of the *Pleura* which ſurrounds the Diaphragm, or *Septum medium*.

Paraplegia. See *Palſy*. And,

Paraplexia, is the ſame.

Paraſtatæ. See *Generation Parts of, proper to Men*, and *Epididymis*.

Paragoricks, from ϖαρηγορέω, *mitigo*, to aſſwage: All Opiates are thus call'd. See *Narcoticks*.

Pararythmos, is a Species of the *Arythmos*, and expreſſes a Pulſe not ſuitable to the Age of a Perſon.

Parenchyma, from ϖαρεγχύω, *transfundo*, to ſtrain through. The Antients us'd to imagine ſome Parts in an human Body meer Fleſh, in Oppoſition to vaſcular, and thro' which ſome Humors were ſtrain'd, as Water ſoaks thro' Earth: but better Information has taught otherwiſe. Alſo,

Parenchymata, from the ſame Derivation, ſignifies all the *Viſcera*, becauſe they are look'd upon as ſo many Strainers to the Humors which paſs thro' them.

Parietale Os. See *Cranium*.

Paronychia, from περὶ, *circum*, about, and ὄνυξ, *Unguis*, the Nail; is a Tumor upon the End of a Finger, commonly call'd a Felon, or Whitloe. A Plant is alſo thus call'd, from its ſuppos'd Virtues in ſuppurating and cleanſing ſuch Tumors; and by the common People Whitloe-Wort, or Graſs.

Parotides; Glands behind the Ears; from παρὰ, and οὖς, *Auris*, the Ear; ſee *Mouth*. When theſe Glands tumify and ſuppurate, which they are moſt apt to do in malignant Caſes, the Swellings take the ſame Name.

Paroxyſm, from ϖαροξύνω, *exacerbo*, to aggravate, is the Height or Fit of any Diſtemper that returns at certain Times.

Particle. This is the ſame as *Atom* or *Corpuſcle*; which ſee. But it may be neceſſary here further to recite ſome of thoſe Laws by which thoſe ſmall Portions of Matter are influenced in their Occurſions and Motions, beſides what hath been already ſaid under the Word *Attraction*, which ſee. Sir *Iſaac Newton*, in his *Opticks*, has open'd a Way to determine the Bulk of the ſmalleſt Particles, and has demonſtrated, beyond all Poſſibility of Contradiction, the Hardneſs of the Particles of the minuteſt Magnitudes, and even of thoſe which conſtitute fluid Bodies collectively. And on the ſame Principles has Dr. *John Keil* taught us theſe further Properties of Matter, when broke, or exiſting in the ſmalleſt Portions.

1. That the leaſt Particle of Matter aſſignable may ſo fill any large aſſign'd Space, that the Diameters of the Pores between its Parts may be all leſs than any given right Line, or, ſo that all the Parts of ſuch a Particle ſhall be nearer to each other than any given right Light.

2. Two Bodies may be given equal in Bulk, but yet any-how unequal in ſpecifick Gravity, or in the Quantity of Matter in each; ſo that the Sums of the Pores in each ſhall be nearly equal. As for Inſtance, in a Cubick Inch of Gold, and another of Air, the Quantity of Matter in the former may be 20000 Times as great as that in the latter; yet the Vacuities in the Gold may be to thoſe in the Air, as 999999 to 1000000, which is very near equal.

3. Thoſe Particles which conſtitute Air, Water, or any other Fluid, if they touch one another, are not abſolutely ſolid; but are compounded of other Particles, which do contain within them many Vacuities. And ſuch Particles of Matter as are the leaſt of all others, and which are perfectly ſolid and devoid of all interſpers'd Vacuities, may be call'd the firſt, or primary component Particles of Matter, or Particles of the firſt Compoſition. Such *Moleculæ*, as are compounded of theſe firſt Particles only, may be call'd Particles of the ſecond Compoſition. And ſuch *Moles* as are compounded of theſe ſecond *Moleculæ*, by ſeveral of them coaleſcing together, may be call'd Particles of the third Compoſition; and ſo on, to the laſt Compoſition of Particles of which Bodies are made, and into which they are primarily diſſolv'd.

4. If a Particle of Matter touch any Body, the Force by which it tends towards that Body, or by which it adheres to it, is proportional to the Quantity of the Contact; for ſuch Particles, as lie remote from the Place of Contact, add nothing to the Coheſion. And therefore, according to the ſeveral Degrees or Quantities of the Contact of Particles, there will ariſe ſeveral Degrees of the Firmneſs or Coheſion of Bodies. And the greateſt Force or Degree of Coheſion will be, when the Surfaces of the cohering Particles are perfectly plain; for there the Force, by which any one Particle adheres to another, will (*cæteris paribus*) be as the Parts of the Superficies in which they touch. And hence only can the Cauſe of the Coheſion of the Parts of Matter in ſolid and firm Bodies be ſolv'd.

5. Thoſe Particles are moſt eaſily ſeparated one from another, whoſe Contacts with other Particles are feweſt and leaſt; as will be the Particles of a ſpherical Figure. And from hence only can the true Cauſe of Fluidity ariſe.

6. If the Texture of a Body be ſuch, that its Particles of the laſt Compoſition (Prop. 3.) can be mov'd a little from their primary State of Coheſion or Contact by ſome external Force, but yet ſo, that the Particles of the Body do not by ſuch Force run into any new Contacts or Coheſions; then they will recover again their former Contacts by the Power of Attraction, or by a Force that will make them tend towards one another: And conſequently, ſuch a Body will, after the Force, recover again its former Figure, and Poſition of its Particles. And in this conſiſts the Reaſon of Elaſticity.

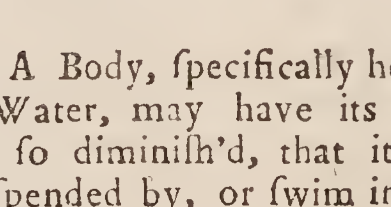
7. But if the Texture of a Body be ſuch, that when its Particles are, by ſome external Force, remov'd from their former Contacts, they go immediately into others of the ſame Degree, that Body cannot recover its former Figure and Poſition of Parts. And this is the Texture of ſuch Bodies as are ſoft.

8. As Particles which are perfectly ſolid, will attract one another the moſt ſtrongly; and as in all other Particles the Power of their Attraction is proportionable to their Denſity or Solidity, ſo the attractive Forces, even of Particles perfectly denſe or ſolid, depend much upon their Figures. For if a ſmall Particle of Matter be ſuppos'd to be form'd into an indefinitely ſmall Plate, of a circular Figure; and if another Particle be ſuppos'd to be in a right Line paſſing thro' the Centre of that Plate, and at right Angles to its Plane: then, if that Particle be diſtant from the circular Plate a 10th Part of the *Radius* of that Circle, the Force by which that Corpuſcle is attracted by the Plate is 30 Times leſs than if the attracting Matter had coaleſced into a ſpherical Figure; ſo that the Virtue of the whole Particle had been diffus'd, as it were, from one phyſical Point. But yet, this circular Plate will more ſtrongly attract the Particle, than any other Particle of the ſame Weight with it, that ſhall be form'd into a long and ſlender Cylinder.

9. Salts are Bodies, whoſe Particles of the laſt Compoſition are endu'd with a very great attractive Force; but yet between thoſe Particles there are very many Pores, which are pervious to Particles of the laſt Compoſition of Water, which, being ſtrongly attracted by the ſaline ones, do ruſh towards them, disjoin their Contact, and diſſolve them.

10. A Body, ſpecifically heavier than Water, may have its Magnitude ſo diminiſh'd, that it ſhall be ſuſpended by, or ſwim in Water, and not be carry'd downwards by its own Weight; which is the Reaſon that ſmall Particles of Salts and Metals will ſwim in ſuch *Menſtruums* as will diſſolve in thoſe Metals, *&c.*

11. Greater Bodies attract one another with a leſs Force than leſſer do: For the Force, with which the Bodies *A* and *B* attract one another, exerts itſelf only in thoſe



Particles which are near one to another, the remote ones having no ſuch Force; wherefore, there is no greater attractive Force requir'd to move the Bodies *A* and *B* towards one another, than to move *c* and *d*. But the Velocity of Bodies, of the ſame Force, are reciprocally proportionable to thoſe Bodies; wherefore, the Velocity, by which *A* tends towards *B*, will be to the Velocity with which the Particle *c*, apart from the Body, tends towards *B*, as the Particle *c* to the Body *A*; ſo much leſs, therefore, is the Velocity of the Body than that of *c* would be, if it were ſeparated from it. From hence it comes to paſs, that the Motion of the greater Bodies is naturally ſo ſlow, that it is uſually retarded by an ambient Fluid, or other Bodies round about them. But in leſſer Bodies this attractive Force is very active and vigorous, and is the Cauſe of a great many phyſical Effects.

12. The Particles of Matter, tho' they do not touch, may come ſo near one to another, that their mutual attractive Force ſhall much exceed the Force of Gravity.

13. If a Particle placed in a Fluid be equally attracted everywhere by all the ambient Particles of the Fluid, no Motion of the Particle will ariſe from thence; but if it be attracted by ſome Particles more, and by others leſs, it will move that Way where the Attraction is greateſt, and the Motion produced will be anſwerable to the Inequality of the Attraction.

14. If a Body be placed in a Fluid, and its Particles do more attract the Particles of the Fluid, than the Particles of the Fluid do one another; and if there be alſo in that Body any Pores, pervious to the Particles of the Fluid; then the Particles of the Fluid will ſoon diffuſe themſelves through thoſe Pores. And if the Coheſion of the Parts of the Body be not ſtrong, but that it may be ſurmounted by the *Impetus* of the Particles of the Fluid ruſhing upon it, and every Way into its Pores; there will ariſe from thence a Diſſolution of that Body. Hence the Reaſon of the Diſſolution of Bodies in *Menſtruums*: In order to which, three Things are always neceſſary. 1. That the Particles of the Body to be diſſolv'd do more ſtrongly attract the *Menſtruum* than thoſe of the *Menſtruum* do one another. 2. That the Bodies have Pores pervious to the Particles of the *Menſtruum*. 3. That the Coheſion of the conſtituent Particles of the Body be not ſo ſtrong, but that it may be broken by the violent Action of the Particles of the *Menſtruum* upon it.

15. If Particles, mutually attracting each other, do alſo mutually touch one another, no Motion can ariſe; but if they are ſeparated from one another a very ſmall Diſtance, a Motion muſt ariſe from their mutual Attraction: Though, if they are remov'd from each other ſo far that they cannot attract one another more than they will the Particles of the Fluid in which they are, then on that Account alſo will no Motion be produced. From theſe Principles all the *Phœnomena* of Fermentation, and all Effervеſcences do proceed. And hence appears the Reaſon why Oil of Vitriol, mingled with a little Water, hath ſo great an Ebullition:

lition: For by the Infuſion of the Water, the ſaline Particles are a little disjoin'd from their mutual Contacts; but ſince they do much more attract one another than they do the Particles of the Water, and ſince they are not every Way equally attracted, a conſiderable Motion muſt from thence ariſe. And from hence alſo may be ſeen the Reaſon, why ſo great an Ebullition ariſes from putting Filings of Steel into the former Mixture of Oil of Vitriol with a little Water; for the Particles of the Steel have a very great Degree of Elaſticity, and thence a ſtrong Reſilition muſt ariſe. And from hence alſo it is, that ſome *Menſtruums* act with a a greater Force, and will ſooner diſſolve ſome Metals, when mingled with a little Water, than when pure, and without ſuch Mixture.

16. If the Particles which do mutually attract each other have no Elaſticity, then they are not reflected back from one another, but will form Aggregates of Particles, from whence Coagulation ariſes: and if theſe Aggregates exceed in ſpecifick Gravity the Weight of the Fluid, and are large enough, a Precipitation will ſucceed; tho' a Precipitation may alſo ariſe from the ſpecifick Gravity of the *Menſtruum* being diminiſh'd or increas'd.

17. If the Figure of Particles mutually attracting each other, when ſwimming in a Fluid, be ſuch, that there is a greater attracting Force in ſome of their given Parts than in others, as alſo a greater Contact there; then thoſe Particles will coaleſce into Bodies having given Figures: And this Way Cryſtallization ariſes; and, from the Figures of the Cryſtals given, Geometry will determine the Figures of the component Particles.

18. If, between two Particles of a Fluid, another ſhall interpoſe, whoſe two oppoſite Faces, or Sides, have very great attractive Forces; this interpoſing Particle will glew or faſten the other two to itſelf; and when this is done throughout the whole Fluid, that Fluid will be frozen, or turn'd into Ice.

19. If a Body of ſome Bulk emit a large Quantity of *Effluvia*, and the Particles of ſuch *Effluvia* have a very great attracting Force, then will theſe *Effluvia*, when they come near any leſſer or lighter Body, by their attracting Force, ſurmount the Gravity of thoſe Bodies, and lift them up to the Bodies from whence they flow; and ſince the *Effluvia* are much more copious and thick at leſſer Diſtances from the emittent Body, than at greater, the light Body will be attracted by ſtill more and more denſe *Effluvia*, and, at laſt, be brought to adhere to the emittent Body. And this Way moſt of the *Phænomena* of Electricity may be ſolv'd. See *Coheſion*.

Partus, Delivery. See *Fœtus*.

Paſſive Principles, are ſuch as the Chymiſts mean by Earth, &c. but their Diſtinction is uſeleſs, becauſe in all Matter there is ſuch a Principle; ſo that what one ſeems to have, in Activity or Inactivity, more than another, ariſes only from their different Modification. See *Vis Inertiæ*.

Paſſulatum, is a Term given by *Diſpenſatory* Writers to ſome Medicines, wherein Raiſins are the chief Ingredient, as the *Electuarium Paſſulatum*, &c.

Paſtillum, a little Lump of Paſte, or Ball, made to take like a Lozenge.

Patella, the Knee-Pan: This is a little round Bone about two Inches broad, pretty thick, a little convex on both Sides, and covered with a ſmooth Cartilage on its Fore-ſide; it is ſoft in Children, but very hard in thoſe of riper Years: It is called alſo *Mola*. Over it paſſes the Tendon of the Muſcles which extend the Leg, to which it ſerves as a Pully for facilitating their Motion, by removing their Direction from the Centre of Motion.

Pathema, from πάθημα, *Affectus Animi*, Paſſion, or Affection; hence

Pathetick Nerve; ſee *Nerve*, and

Pathognomonick Signs, from the former. and γινώσκω *cognoſco*, to know, are ſuch Signs of a Diſeaſe as are inſeparable, telling the Eſſence or real Nature of the Diſeaſe: And

Pathology, from the former, and λέγω, *narro*, to relate, is that Part of Medicine which relates to the Diſtempers, with their Differences, Cauſes, and Effects, incident to the human Body.

Patientiæ Muſculus, the Muſcle of Patience, thus called from its great Service in Labour; it is the ſame as the *Levator Scapulæ*, which ſee.

Pecquet's Duct. See *Ductus Thoracicus*.

Pectineus Muſculus, is, according to *Riolanus*, that Part of the *Triceps*, which ariſes neareſt to the Cartilage of the *Os Pubis*.

Pectinis Os, the ſame as *Os Pubis*. See *Oſſa Innominata*.

Pectoralis Muſculus, is a Muſcle that moves the Arm forward; it ariſeth by a fleſhy and ſemicircular Beginning from the inner Half of the *Clavicula*, from the ſix ſuperior Ribs; and it covereth a great Part of the Breaſt, and is inſerted by a ſhort, but ſtrong and broad Tendon into the upper and inner Part of the *Humerus*, between the *Biceps* and *Deltoides*. Its Fibres, near their Inſertion, decuſſate one another Thoſe which come from the *Clavicle* or firſt Ribs are on the lower Side of the Tendon; and thoſe from the inferior Ribs are on the upper Side of the Tendon.

Pectorals, are ſuch Medicines a are good in Diſtempers of the Breaſt from *Pectus*, the Breaſt.

Pectoris Os, the ſame as *Sternum*.

Pectus, the Breaſt, moſt ſtrictly includes the whole Cavity, commonly called by Anatomiſts *The Middle Region*; but by ſame Writers it is more reſtrained to particular Parts of that Diviſion.

Pediculation, *Morbus Pedicularis*, by the *Greeks* φθειρίασις, is a particular Foulneſs of the Skin very apt to breed Lice; and is ſaid to be the Diſtemper of the *Egyptians*, which we read of among the Plagues with which God puniſhed that People.

Pediculus, among Botaniſts, ſignifies the Stalk or Stem upon which grows the Leaf, Fruit, or Flower of any Plant.

Pediluvium, from *Pedes*, the Foot, and *lavo*, to waſh, is a Bath for the Feet.

Pelican, is an Inſtrument to draw Teeth with; alſo a Chymical Veſſel.

Pellicle, is a Film or Fragment of a Membrane, from

Pellis, the Skin, or Hide of any Creature.

Pelvis, ſignifies a Baſon: For which Reaſon ſeveral Cavities in the Body are called by this Name; as the lower Part of the *Abdomen*, the Hollow of the Kidnies, &c.

Penetrating, is ſaid of any thing ſubtle and piercing.

Penetration of Dimenſions, is a phyſical Poſſeſſion of the ſame Place by two Bodies, ſo that the Parts of the one do every where penetrate into, and adequately fill up the Dimenſions or Places of the Parts of the other, which is manifeſtly impoſſible, and contradictory to Demonſtration.

Penicilla, is a Lozenge made round by rolling; the ſame as *Turundula*: From *Penicillus*, a Pencil, which it reſembles in Shape.

Penidium, a Kind of clarified Sugar, with a Mixture of Starch, made up into ſmall Roles.

Penis. See *Generation Parts of, proper to Men.*

Penis Cerebri, the ſame as *Conarion.* See *Brain.*

Penis Muliebris, the ſame as *Clitoris.* See *Generation Parts of, belonging to Women.*

Pennata, Winged, from *Penna*, a Wing; amongſt Botaniſts are thoſe Leaves of Plants as grow directly one againſt another on the ſame Rib or Stalk; as thoſe of Aſh, Wall-Nut Trees, &c.

Penſile, is ſaid of ſome Warts, Excreſcencies or Tumors, which hang by a ſmall Root, as if eaſy to come off.

Pentapharmacon, from πέντε, *quinque*, five, and φάρμακον, *Remedium*, Remedy; is any Medicine conſiſting of five Ingredients.

Pepaſmos, πεπασμὸς, the ſame as Concoction or Maturation; whence

Pepticks, are ſuch things as promote Concoction.

Peracute, very ſharp; Diſeaſes are thus called when greatly inflamed or aggravated beyond meaſure.

Percolation, ſtraining through, from *per*, through, and *colo*, to ſtrain: It is generally applied to animal Secretion, from the Office of the Glands, reſembling that of a Strainer, in tranſmitting the Liquors that paſs through them.

Per deliquium, by melting; as Salt of Tartar, diſſolved in the Air, is called Oil of Tartar *per deliquium*, &c.

Per deſcenſum, by deſcent, is a particular Manner of Diſtillation.

Perennial, ſtrictly ſignifies any thing which laſts all the Year, the Word importing only ſo much; from *per* and *annus*; as thoſe Vegetables which ſhed not their Leaves in the Winter, commonly, called *Ever-Greens*: but by ſome Writers it is uſed much in the ſame Senſe as continual, and applied to Fevers which have no Intermiſſions.

Perfection, is often uſed for tha highest or beſt State, to which any natural Productions are capable o being brought, altho' even then they are far from Perfection in the moſt rigid Signification of the Word.

Perforans Muſculus, is a Muſcl that ariſes from the upper and back part of the *Tibia*; and paſſing unde the inner Ankle and Ligament tha ties the *Tibia* and *Os Calcis* together it divides into four Tendons, whic paſſing the Holes of the *Perforatus* (the Word importing boring o paſſing through) are inſerted int the third Bones of each leſſer Toe There is a *Maſſa Carnea* (a fleſh Subſtance) that ariſes from the C *Calcis*, and which joins the Tendon of this Muſcle where the *Lumbricales* begin.

Perforatus Muſculus, alſo calle *Flexor Brevis*, is a Muſcle that ariſes from the inner and lower Pa of the *Os Calcis*, and is inſerted b four Tendons into the ſecond *Phalanx* of each Toe. Theſe Tendons are perforated, to give Wa to the Tendons of the *Perforans.*

Perforation, is the paſſing any one Body through another, as a thing is boared thro'; but is chiefly uſed by Phyſicians for the penetrating by an Inſtrument into any of the great Cavities, as is the Operation of the *Paracenteſis. Hildanus* alſo uſes it for ſuch Eroſion of the Bones as eats them thro'; and ſome other chirurgical Writers, for the Opening any Abceſs by an Inſtrument.

Perianthium, from ϖεϱὶ, *circum,* about, and ἄνθος, *Flos,* a Flower, are thoſe little green Leaves that encompaſs the Bottom of a Flower,

Pericardium, from ϖεϱὶ, *circum,* about, and καϱδία, *Cor,* the Heart, is the Membrane encompaſſing the Heart. See *Heart.*

Pericarpia, from ϖεϱὶ, *circum,* about, and *Carpus,* the Wriſt; are Medicines that are applied to the Wriſt.

Periclaſis, ϖεϱίκλασις, is a Term uſed by *Galen* for ſuch a total Fracture of a Bone as quite divides it, and forces it out through the Fleſh into Sight.

Pericranium, from ϖεϱὶ,, *circum,* about, and *Cranium,* the Skull, is the Membrane that covers the Skull. It is a very thin and nervous Membrane, of an exquiſite Senſe, which covers immediately, not only the *Cranium,* but all the Bones of the Body, except the Teeth; for which Reaſon it is alſo called the *Perioſteum,* from the former Part as before, and *Os,* a Bone. It is tied to the *Dura Mater* by ſome Fibres which paſs thro' the *Sutures* of the Skull. It receives Veins from the external *Jugulars,* Arteries from the *Carotides,* Nerves from the fifth Pair of the Brain, and from the ſecond of the Neck.

Periergia, ϖεϱίεϱγος, is any needleſs Caution or Trouble in an Operation, as ἀπεϱίεϱγος is one who diſpatches it without any unneceſſary Circumſtances: both the Terms are met with in *Hippocrates,* and others of the *Greek* Writers.

Perimeter, is the Compaſs or Sum of all the Sides which bound any Figure, of what Kind ſoever, whether rectilinear or mixed.

Perinyctides, are little Swellings like Nipples.

Period is the Space in which a Diſtemper continues from its Beginning to its Declenſion; and ſuch as return after a certain Space, with like Symptoms, are called

Periodical Diſtempers.

Perioſteum. See *Pericranium.*

Peripatetick Philoſophy, is ſo named from thoſe who ſtudied and taught walking about, and who were therefore, called

Peripateticks, from ϖεϱιπατέω, *perambulo,* to walk about: the chief of theſe was *Ariſtotle*; and all who have ſince eſpouſed his Doctrines have gone under the ſame Name, whether they have continued the Practice of Walking or not.

Periphery, from ϖεϱιφέϱω, *circumfero,* to ſurround, is the Circumference of a Circle or a Sphere.

Periphimoſis. See *Phimoſis.*

Peripneumonia, from ϖεϱὶ, *circum,* about, and ϖνεύμων, *Pulmo,* the Lungs, or ϖνέω, *ſpiro,* to breathe; is an Inflammation of ſome Parts of the *Thorax,* that occaſions Shortneſs of Breath; and it generally goes off by Expectoration, and ſuch Means as have Succeſs in Aſthma's. Some Authors diſtinguiſh this into *vera,* the true, and *notha,* the ſpurious Peripneumony; but ſuch Difference is of no great Moment.

Peripyema, ϖεϱιπύεμα, is a Collection of Matter about any Part, as found a Tooth in the Gums; and

Perirrhœa, περίῤῥοια, is a Reflux of Humours from the Habit of the Body into any of the larger Emunctories for its Excretion, as in an hydropical Caſe of Water upon the Bowels or Kidnies, where it paſſes away by Urine or Stool.

Periſtaltick Motion, from περιστέλλω, *contraho*, to contract; is that vermicular Motion of the Guts which is made by the Contraction of the ſpiral Fibres, whereby the Excrements are preſſed downwards, and voided.

Periſtaphylinus; there is the internal and external, being two Muſcles of the *Uvula*, the one pulling it forwards, and the other backwards.

Periſterna, from περὶ, *circum*, about, and the *Sternum*, the Breaſt-Bone, expreſſes all on both Sides that Part.

Periſtoma, or rather *Periſtroma*, περίστρωμα, properly ſignifies any Covering; but is applied by *Pecquet* to the mucous Lining of the Inteſtines, the ſame which *Bilſius* calls *Muſcum villoſum*, *Bartholine*, *Cruſta Membranacea*, and *De Graaf*. *Cruſta Vermicularis*.

Periſyſtole, περισυστολὴ, is a Pauſe or Intermiſſion between the Syſtole and Diaſtole, which is by moſt denied to be perceived in well Perſons; but when dying, it is very ſenſible felt.

Peritonæum, from περιτείνω, *circumtendo*, to ſtretch round. This lies immediately under the Muſcles of the lower Belly, and is a thin and ſoft Membrane, which encloſes all the Bowels contained in the lower Belly, covering all the Inſide of its Cavity. Its external Superficies is unequal where it adheres to the tranſverſe Muſcles. The internal is very ſmooth and poliſhed; it has a Number of ſmall Glands that ſeparate a Liquor which ſupplies the Inteſtines, and facilitates their Motion. When theſe Glands are obſtructed, the *Peritonæum* grows thick, as may be ſeen in ſeveral Dropſies. The Upper-part of this Membrane covers the Midriff, to which it cloſely adheres: The Fore-part of it ſtrikes to the tranſverſe Muſcles, and *Lineâ Alba*; the lower Part of it to the *Os Pubis*; and the Back-part of it to the *Os Sacrum*, and *Vertebræ* of the Loins. 'Tis a double Membrane, and contains in its Duplicatures the Umbilical Veſſels, the Bladder, the Ureters, the Kidnies, and the Spermatick Veſſels, to all which it gives a Membrane, as alſo to the Liver, Spleen, Stomach, Inteſtines, and Womb. Its external *Lamina* has two Productions, like to two Sheaths, which paſs thro' the Rings of the oblique and tranſverſe Muſcles in the Groin, for the Paſſage of the Spermatick Veſſels in Men, and for the round Ligaments of the Womb in Women. Theſe Productions, being come to the Teſticles in Men, dilate and form the *Tunica Vaginalis*. The internal *Lamina*, which is here very thin, having accompanied the external Productions a little Way, cleaves cloſe to the Spermatick Veſſels, and round Ligaments of the Womb. The *Peritonæum* has Veins and Arteries from the *Phrenicæ*; from the Mamillary, the Epigaſtrick, and often from the Spermaticks. Its Nerves are of thoſe which are diſtributed in the Muſcles of the *Abdomen*. It has likewiſe a few Lymphaticks, which diſcharge themſelves into the Iliack Glands. By the Elaſticity of its Fibres, it eaſily dilates and contracts in Reſpiration and Conception. If it breaks, it cauſes a Rupture either in the

Groin or Navel. Its Uſe is to contain the Bowels of the *Abdomen,* and to give each of them an outer Coat.

Perizoma, ϖεριζωμα, ſtrictly ſignifies a Girdle; but by *Hildanus,* and ſome other chirurgical Writers, it is applied to ſuch Inſtruments for ſupporting Ruptures, which we commonly call Truſſes. Some alſo expreſs by it the Diaphragm.

Pernio, is a Swelling in the Hands and Feet, from a thick Blood, with great Heat and Itching; and commonly called Chilblanes, and Kibes.

Perona, the ſame as *Fibula,* which ſee: From this Term comes that of

Peronæus Muſculus, or *Peronæus Anticus,* a Muſcle of the Leg that is joined to the *Poſticus* in its Origination, which is from the upper and external Part of the *Fibula*; and running thro' the Channel which is in the external Ankle, it is inſerted into the *Os Metatarſi.*

Peronæus Poſticus, ariſes from the ſuperior and external Part of the *Perone,* or *Fibula*; and deſcending, it paſſes thro' the Fiſſure of the external Ankle under the Soal of the Foot, to be inſerted into the *Os Metatarſi* that ſuſtains the little Toe. When this Muſcle acteth, it pulleth the Foot outwards.

Perpetual Motion. See *Nature, Laws of,* Law II.

Per ſe, by itſelf, as ſome Things are drawn by Diſtillation without any additional Helps to raiſe them; as the genuine Spirit of Hartſhorn, thus called in Oppoſition to that which is aſſiſted with Quick-Silver.

Perſpiration, a Breathing through. See *Baths,* and *Bathing*; *Cuticula,* and *Cutis.* And what flies off this Way, is called

Perſpirable Matter. See as above.

Pes, the Foot. In this are diſtinguiſhed three Parts, the *Tarſus, Metatarſus,* and Toes; which ſee.

Peſſary, is an oblong Form of Medicine made to thruſt up into the *Uterus,* upon ſome extraordinary Occaſions.

Peſtis, the Plague, is a Diſtemper communicated by Infection; which ſee, and Contagion. Whence

Peſtilential Diſtempers, are thoſe ſo communicated.

Petala, is a Term in Botany ſignifying thoſe fine coloured Leaves that compoſe the Flowers of all Plants. Whence Plants are diſtinguiſhed into *Menopetalous,* whoſe Flower is in one continued Leaf; *Tripetalous, Pentapetalous,* and *Polypetalous,* when they conſiſt of three, five, or many Leaves. See *Flower.* Hence

Petalodes, ϖεταλώδης, is by *Hippocrates* applied to an Urine which hath in it flaky Subſtances reſembling Leaves.

Petechiæ, are Spots in the Skin like Flea-Bites, which come out in ſome Fevers. Whence

Petechial Fever, is the Spotted-Fever, commonly ſo called.

Petrefaction, and

Petrifaction, from *Petra,* a Rock or Stone, and *facio,* to make; to turn into Stone. This is apply'd to ſome Subſtances that by certain Springs or Liquors ſeem changed into Stone: But there is not in ſuch Caſes any real Tranſmutation of another Subſtance into Stone, but only Particles of Stone which before floated in a Liquor, lodged and depoſited in the Pores of ſuch Subſtances in ſuch a Manner, and ſuch Plenty, as to leave very little elſe than the Appearance of a Stone. This is alſo frequently done by an Incruſtation of ſtony Particles upon ſome Bodies, as Salts ſhoot upon and adhere to them.

Petroſum Os See *Cranium.*

Phacodes, φακώδης, is uſed by *Hippocrates* for hypocondriacal Perſons, whoſe Complexions are of a Lentil Colour, as *Upophacodes* is alſo applied by him to ſuch as are approaching to ſuch a Complexion; and

Phacoides, φακοειδὴς, any Thing in the Shape of a Lentil, as applied by *Veſalius* to the chryſtalline Humour of the Eye. *Galen* alſo makes mention of

Phacoptiſſana φακοπτισσάνη, a Liquor, or Decoction of Lentils, like what is now the common Practice in the Country of boiling Tares in Drinks for raiſing the Small-pox, and the like Uſes.

Phalanx, was firſt applied to a Rank of Men in Battalia, and is now by Anatomiſts uſed for the ſmall Bones of the Fingers; which ſee under *Digitus.*

Phænomenon, from φαίνω, *appareo*, to appear; is any natural Repreſentation or Appearance.

Phagedæna, from φάγο, *edo*, or *rodo*, to eat or corrode, is ſuch an Ulcer where the Sharpneſs of the Humors eats away the Fleſh: And hence.

Phagedenick Medicines, are thoſe which eat away fungous or proud Fleſh

Pharmacum, *Remedium*, any Medicine. Hence

Pharmaceutica, is that Part of Phyſick which teaches the Uſe of Medicines; and

Pharmacia, is the Art of making Medicines; as is alſo

Pharmacopœia, and

Pharmacopœius, from the former Derivation, and φοιέω, *facio*, to make; is a Medicine-Maker, or an Apothecary: And

Pharmacopola, from the former Derivation, and πολέω, *vendo*, to ſell; is a Seller or Vender of Medicines.

Pharyngotomia, from *Pharynx*, and τέμνο, *ſeco*, to cut, is the ſame as *Laryngotomy*; as

Pharynx, is the ſame as *Larynx*; which ſee.

Phaſes, from φαίνω *appareo*, to appear, are the Appearances of any thing.

Philanthropos, φιλάνθρωπος, is ſtrictly a Friend to Man; but hence ſome have conceitedly given it to ſome Medicines, of which they have had a great Opinion.

Philiatros, φιλίατρος, is a Student in Medicine.

Philonium, is the Name of an Anodyne Electuary, deſcribed in moſt Diſpenſatories from *Philo* its Author.

Philoſophia, and thence

Philoſophus, φιλόσωφος, is a Lover of Knowledge, and therefore more eminently is applied to thoſe who ſtudy natural Cauſes; as

Philotechnus, φιλότεχνος, is applied to one who is a Lover, and an Encourager of Arts.

Philtrum, the ſame as *Filter*; ſee *Filtration.* This is alſo a Name ſome conceited People give to Medicines which they pretend will excite Love.

Phimoſis, from φιμὸς, *obturamentum*, a Glewing or Faſtening, is uſed to ſignify the Adheſion of one Part to another by the Mediation of ſome glutinous Matter, as in the Eye-Lids; but is generally applied to the Adheſion of the *Prepuce* to the Glands of the *Penis*; and when this is ſo all round, that the *Prepuce* cannot be got back, it is called *Periphimoſis*, from περὶ, *circum*, about, and φιμὸς.

Phlebotomy, from φλὲψ, *Vena*, a Vein, and τέμνω, *ſeco*, to cut, is Blood-letting. To give as much Light into this Affair, of ſo much Importance to the Art of Healing, as our Compaſs will here allow, it ought to be remember'd, *That every Body ſtriking againſt another, and communicating Part of its Motion thereunto, does loſe ſo much of its own Motion, or is ſo much retarded.* Wherefore, the Blood thrown out of the Heart, while it ſtrikes upon the antecedent Blood, and drives it forward, transfers to it Part of its own Motion, or loſes it; that is, it is hinder'd by that, and ſo much retarded in its own Motion. Hence it follows, that if Blood be drawn out of the Baſilic Vein of the Right-Arm, then the ſucceeding Blood, or that carry'd by the Axillary Artery, or right Subclavian, will be leſs hinder'd in its Motion, than it was before that Vein was open'd: For, Part of the Blood being taken away by the opening of that Vein, there remains behind a leſſer Quantity in the Axillary Vein, or leſs is contain'd between the further Extremity of the Axillary Artery and the Heart than was before; therefore, the Blood being let out by the Vein, the Remainder in the Artery will be leſs hinder'd in its Motion than before. And therefore, the Blood of that Artery, which communicates with the Vein that is open'd, will flow with a greater Velocity, after the Aperture is made, than it did before. Hence it appears, that while the Blood is flowing out of the Vein in the Arm, the Blood, thrown out of the Heart into the *Aorta*, will find leſs Reſiſtance in the aſcending Trunk, than in the deſcending: and therefore, it will flow faſter in the aſcending than in the deſcending Trunk: And thence too, it will find leſs Reſiſtance in the right Subclavian Artery than in the left. For the Blood is not ſuppos'd to run out of the Vein in the left Arm, but of the right; and therefore, it will run faſter through the right Subclavian or Axillary Artery, than through the left. And laſtly, it hence appears, that the Blood being let out of a Vein in the right Arm, the remaining Blood in the right Axillary Artery runs with a greater Velocity into the Artery of that Arm that is continuous to it, than it runs through the Thoracick Artery, or the right Scapulary, which is likewiſe continuous to it; becauſe, when the Blood is not ſuppos'd to be drawn out from any Vein correſponding to the Thoracick Artery, or into which this exonerates itſelf, there is proportionally a greater Impediment to the Motion of the Blood in the Thoracick Artery, than in that of the Arm: but becauſe the Velocity of Blood in the Subclavian Artery, or the right Axillary, is greater than in the left, the Velocity in the right Thoracick will alſo be greater than in the left Thoracick Artery. Wherefore, it is manifeſt that the Blood being let out of a Vein in the right Arm, the greateſt Velocity of the remaining Blood will be in the Artery of that Arm, becauſe it immediately empties its Blood into the Vein that is open'd; and the next greateſt Velocity will be in the Thoracick Artery, or Scapulary of the ſame Side, going out from the Axillary Artery. But the Velocity of Blood will be far leſs in the Brachial, Axillary, and Thoracick Artery on the left and oppoſite Side; and the Velocity will be leaſt of all in the Arteries ariſing from the deſcending Trunk of the *Aorta*.

Upon this View it may eaſily be gather'd, what is to be done in every particular Circumſtance, as to Blood-letting. As for Inſtance, if we would prevent the Increaſe of any Humor from the Blood ſtagnating in the left Leg, or bring it about, that as little Blood as poſſible ſhould flow to that Leg in any given Space of Time; firſt, Blood ought to be taken from the Arm or Leg of the right Side, becauſe this is truly making what is call'd *Revulſion*. And again, if Blood be drawn away on the ſame Side, and from ſome Vein that receives the Blood from a Branch of that Trunk which tranſmits it to the ſwell'd Part, it will occaſion a greater Derivation of Blood to that Limb. And whoſoever rightly underſtands thus much, will eaſily in every Exigence manage this Part of Cure to the greateſt Advantage. And, as for what relates to the whole Habit in all *Lentors* and Viſcidities, if there be a due Strength and Elaſticity remaining in the Solids, Phlebotomy will make the remaining Blood circulate faſter, and become thinner and warmer: but in a *Plethora* from Debauch, and too large Quantities of ſpiritous Nouriſhment, or from a Diminution of Perſpiration, where the Blood yet retains its natural Fluxility, Phlebotomy will render the remaining Maſs to circulate ſlower, and become cooler. In the former Caſe a Diminution of the Reſiſtance in the Blood-Veſſels will increaſe the contractile Powers of thoſe Veſſels, and make them beat faſter, and circulate their Contents with greater Velocity; but in the latter Caſe a Diminution of the Quantity of a ſpirituous Blood will leſſen the Quantity of Spirit ſecreted in the Brain, the Conſequence of which will be, that the Heart and Arteries will not contract ſo often, nor ſo ſtrongly as before, and therefore, will the Blood move ſlower, and become cooler. And on this depends the whole Doctrine of Blood-letting: For further Satiſfaction in which, ſee *Bellini de Miſſione Sanguinis*.

Phlegm, in an human Body, is the ſame as *Pituita*, which ſee; but amongſt the Chymiſts is much the ſame as Water, and is the common Vehicle and Diluter of all ſolid Bodies; and, in Proportion to its Quantity in Mixture, are the other more languid or diſabled in their attractive Influences. It is much to be queſtion'd, whether this can be drawn by Diſtillation without ſome Mixture: that which has the leaſt muſt come neareſt to the Nature of a Principle; and, upon that Account, Rain-Water is like to afford it moſt. In the former Acceptation of this Term,

Phlegmagogues, from *Phlegma*, Phlegm, and ἄγω, *duco*, to draw, are ſuch Medicines as are ſuppos'd to purge Phlegm. And,

Phlegmatici, are thoſe who abound with Phlegm in their Conſtitutions. But,

Phlegmon, in the Acceptation of *Hipprocrates*, and our practical Surgeons, ſignifies a Tumor with Inflammation and Heat; from φλέγω, *uro*, to burn. And,

Phlegmonodes, and

Phlogoſis, have the ſame Signification.

Phoſphorus, is a chymical Preparation, from Urine chiefly, that will flame and burn ſpontaneouſly. There are ſeveral Kinds of it, which, by proper Application, might give great Light into natural Philoſophy.

Phrenes, is the ſame as *Diaphragm,* which ſee; and thus call'd, from φρὴν, *Mens,* the Mind, becauſe that has been imagin'd by ſome to be the Seat thereof; and, from the Communication of Nerves, it hath certainly ſuch a nice Conſent or Fellow-feeling with the Head, as to be ſenſibly affected with many Commotions there. Whence,

Phrenitis, is a Phrenſy or Diſtraction, whoſe Seat is certainly in the Head, though it hath its Name from a Suppoſition to be ſeated in this Part. And,

Phrenetick Nerves, are thoſe belonging to the Diaphragm. And,

Phrenetick Veſſels, are the Veſſels of that Part.

Phthiſis, from φθίω, *corrumpo,* to corrupt, rot, or waſte, is a Conſumption. There is ſuch a vaſt Variety, both as to the Cauſe and Cure of what goes under this Appellation, that, for an Account thereof, we muſt refer to Authors on that Subject.

Phygethlon, φύγεθλον, is a Tumor affecting the glandulous Parts under the Jaw, call'd ſometimes *Pannus*; it lying round and flat as a Cake.

Phylacteries, are Sorts of Amulets, or Charms, to be worn externally for the Cure of many Diſeaſes; but theſe ſeem to have had their Riſe, when Phyſick was ingroſs'd by the Monks, and ſuch like holy Cheats; but are now put out of Countenance, by the Increaſe of true Learning, and the Extirpation of thoſe pious Jugglers.

Phyma, and

Phymus, the ſame with *Phimoſis*; which ſee: although

Phyma, is a Name alſo given by Surgeons to a Tumor about the Jaws.

Phyſiognomonick Signs, from φύσις, *Natura,* Nature, and γινώσκω, *cognoſco,* to know; are Signs that are pretended to be known from the Countenance. As,

Phyſiognomy, is the Art that pretends to give Rules for ſo doing.

Phyſiologia, from the former Derivation of the firſt Part, and λέγω, *narro,* to relate or deſcribe, is that Part of Phyſick, that teaches the natural Conſtitution of the human Body.

Phyſicks, from φύσις, *Natura,* is, in general, the Science of all material Beings, or whatſoever concerns the Syſtem of this viſible World; though in a more limited and improper Senſe, Phyſick is, by many, apply'd to the Science of Medicine.

Phytologia, from φύτη, *Planta,* an Herb, and λέγω, *narro,* to deſcribe; is a Deſcription of Plants.

Pia Mater, is a thin and delicate double Membrane, which lies under the *Dura Mater,* and covers immediately the Subſtance of the Brain. Its inner Membrane is much larger than its outer Membrane; for it runs in betwixt all the Foldings and Circumvolutions of the Brain to ſeparate them, and to ſuſtain the Blood-Veſſels, which make ſeveral Turnings and Windings upon it, before they terminate in the Subſtance of the Brain. It has the ſame Uſe as the *Dura Mater.*

Pica, the ſame as *Malacia,* which is a vitiated Appetite, wherein Perſons crave Things unfit for Food, as Women with Child, or in a *Chloroſis.*

Picra. See *Hiera Picra.*

Piles; they are the ſame as the *Hæmorrhoides,* and are to be accounted for only in the ſame Manner, as a *Plethora* cauſes the *Menſes*; which ſee.

Pili, Hair; which ſee.

Pinealis Glandula. See *Conarion.*

Pinguedo, Fat; which ſee.

Pinna Auris. See *Ear.*

Pinna Naſi, the ſame as *Alæ Naſi*; which ſee.

Pin-and-Web, is an horny Induration of the Membranes of the Eye, not greatly unlike a Cataract; which ſee.

Pinnata Folia, from *Pinna,* a Feather; in Botany are ſuch Leaves of Plants as are deeply jagged, cut, or indented, reſembling a Feather in Shape.

Piperine : Things are thus call'd, which partake of the chief Qualities of Pepper, whether Simples or Compounds. *Hildanus* likewiſe applies *Piperina* to Baths in *Helvetia,* which he makes Mention of in his Works.

Piſſaphaltus, is the ſame as *Bitumen Judaicum.*

Piſtillum, a Peſtle; the Uſe of which is enough known. Botaniſts have alſo apply'd it to a Part of ſome Plants, which, in Shape, hath Reſemblance thereunto.

Pituita, Phlegm; is the moſt viſcid and glutinous Part of the Blood, which is ſeparated in the largeſt Glands, where the Contortions of the Arteries are greateſt, and give the greateſt Retardation to the Blood's Velocity, as in the Glands about the Mouth and Head. Hence,

Pituitaria, is a Name given to a Gland by *Bartholine,* which ſeparates the viſcid Moiſture of the Noſtrils.

Placenta Uterina. It is a thick Cake, that grows on the Out-ſide of the *Chorion,* in Proportion as the *Fœtus* grows; and, from its Appearance, call'd alſo *Hepar Uterinum,* the Liver of the Womb. It is of a circular Figure, and, at its biggeſt, is about two Fingers breadth thick, and ſix or ſeven in Diameter. The Branches of the umbilical Veſſels are ſpread thro' all its Subſtance; and indeed, it ſeems to be nothing elſe but a Texture of the Veins and Arteries, by whoſe Extremities opening into the Sides of the Hypogaſtrick Veſſels, the Circulation is perform'd between the Mother and the *Fœtus* : For that Side of the *Placenta,* which adheres to the Womb, appears to be nothing but the Extremities of an infinite Number of ſmall Threads, which, in Labour, dropping out of the Pores in the Sides of the Hypogaſtrick Blood-Veſſels, into which they had inſinuated themſelves, is the Occaſion of the flowing of the *Lochia,* till the *Uterus* collapſes, or the Pores, by the natural Elaſticity of the Veſſels, contract by Degrees. Sometimes Twins have only one common *Placenta,* and ſometimes they have each a diſtinct one.

Place, is that Part of Space which any Body takes up, and is divided into abſolute and relative : the former is the real internal Space which a Body fills; and the latter the apparent, ſecondary, or ſenſible Poſition of any Body, according to the Determination of our Senſes, with reſpect to other contiguous or adjoining Bodies.

Plaga, πληγὴ, in a lax Senſe, is taken for any Diſeaſe; but more ſtrictly, is us'd to ſignify thoſe which are external, and proceed from Blows or Accidents.

Plana. See *Ethmoides.*

Plane, is a Surface, that lies even between its bounding Lines; ſo that, as a right Line is the ſhorteſt

Extenſion from one Point to another, ſo a Plane-Surface is the ſhorteſt Extenſion from one Line to another.

Plant. What comes under this Denomination, Mr. *Ray* has diſtributed under twenty-five Genders, or Kinds.

1. The imperfect Plants, which do either totally want both Flower and Seed, or elſe ſeem to do ſo; there having no Seed or Flower been yet diſcover'd to belong to them, or at leaſt, but to few of them; ſuch as Coral, Sponges, *Algæ Confervæ*, Duck-meat, or the *Lens Paluſtris*, the *Fungi*, *Tubera Terræ*, the Moſſes, and ſome Liver-wort.

2. Plants producing either no Flower at all, or an imperfect one, and whoſe Seed is ſo ſmall, as not to be diſcernible by the naked Eye. Some of theſe bear their Seeds on the back-part of their Leaves; as the Maiden-hair, Spleen-wort, *Polypodium*, and Ferns. Others bear it on the Stalk itſelf, adhering there by ſmall ſingle Foot-ſtalks; as the *Lichen Terreſtris*, the *Lycopodium* or Wolfs-claw, the *Adianthum Aureum*, the *Lunaria*, *Equiſetum*, &c.

3. Thoſe whoſe Seeds are not ſo ſmall, as ſingly to be inviſible, but yet have an imperfect or ſtamineous Flower, *i. e.* ſuch an one as is without the *Petala*, having only the *Stamina* and the *Perianthium*; as Hops, Hemp, *Mercurialis*, Nettles, Docks, Sorrels, Arſeſmart, Knot-graſs, Pond-weed, Orach, Blite, Beet, Ladies-mantle, *&c.*

4. Such as have a compound Flower, and emit a Kind of white Juice, or Milk, when their Stalks are cut, or their Branches broken off; ſuch as Lettuce, Sow-thiſtle, Hawk-weed, Dandelion, Succory, Goats-beard, Nipple-wort, *&c.*

5. Such as have a compound Flower of a diſcous Figure, the Seed pappous, or winged with Downe, but emit no Milk as the former do; as Colts-foot, Flea-bane, Golden-rod, Rag-weed, Groundſel, Cud-weed, *&c.*

6. The *Herbæ Capitatæ*, or ſuch whoſe Flower is compos'd of many ſmall, long, fiſtulous, or hollow Flowers gather'd together in a round Button, Ball or Head, which is uſually cover'd with a ſquammous or ſcaly Coat; of which Kind are the Thiſtle, the greater Burdock, Blue-bottle, Knap-weed, Saw-wort, *&c.*

Theſe have all a Downe adhering to their Seeds.

7. The Corymbiferous Plants, which have a compound diſcous Flower, but their Seeds have no Downe adhering to them; the Reaſon of the Name you have under the Word *Corymbus*: Of this Kind are Corn-marigold, common Ox-eye, Yarrow, the Daiſy, Camomile, Tanſy, Mugwort, Scabious, Teaſel, Eryngo's, *&c.*

8. Plants with a perfect Flower, and having only one ſingle Seed belonging to each ſingle Flower; ſuch are Valerian, Corn-ſallad, Agrimony, Burnet, Meadow-Rue, Fumitory, *&c.*

9. The Umbelliferous Plants, which have a pentapetalous Flower, (*i. e.* one having juſt five ſmall *ſtetala*, or Leaves) and belonging

ing to each ſingle Flower, are two Seeds lying naked, and joining together: they are call'd Umbelliferous, becauſe the Plant, with its Branches and Flowers, hath an Head like a Lady's *Umbrella*, which they call *Umbella*.

This is a very large *Genus* of Plants, which, therefore, he thus ſubdivides into,

(1.) Such as have a broad flat Seed, almoſt of the Figure of a Leaf, or which are encompaſs'd round about with ſomething like Leaves; as Cow-parſnep, Wild and Garden-parſnep, Hogs-fennel, (*Pucedanum*) &c.

(2.) Such as have a longiſh Seed ſwelling out in the Middle, and larger than the former; as Shepherd's-needle, Cow-weed, wild Chervil, common Spignel or Meum, *&c.*

(3.) Such as have a ſhorter Seed; as Angelica, and Alexanders.

(4.) Such as have a tuberous Root; as the Earth-nut, Kipper-nut or Pig-nut, Water-Drop-wort, and Hemlock Drop-wort.

(5.) Such as have a ſmall wrinkled, channell'd, or ſtriated Seed; as Stone-parſley, Water-parſnep, Burnet, Saxifrage, Caraways, Smallage, Hemlock, Meadow-Saxifrage, Samphire, Fennel, Rock-parſley, *&c.*

(6.) Such as have rough, hairy, or briſtly Seeds; as Mountain-Stone-parſley, Wild Carrot or Bird's-neſt, Hedge and Baſtard-parſley, Hemlock, Chervil, Sea-parſnep.

(7.) Such as have their Leaves entire, and undivided into Jags, *&c.* as *Perfoliata* or Thorowax, Sanicle, the leaſt Hare's-ear, *&c.*

10. The Stellate Plants, which are ſo call'd, becauſe their Leaves grow on their Stalks at certain Intervals or Diſtances, in the Form of a radiant Star. Their Flowers are really monopetalous, but divided into four Segments, which look like ſo many diſtinct *Petala*, or four Leaves; and each Flower is ſucceeded by two Seeds which grow at the Bottom of it: Of this Kind is Croſs-wort, or Mug-weed, with Madder, Ladies Bed-ſtraw, Wood-ruff, Clivers, *&c.*

11. The *Aſperifolia*, or rough-leav'd Plants. They have their Leaves plac'd alternately, or in no certain Order on their Stalks; they have a monopetalous Flower cut or divided into five Partitions, and after every Flower there ſucceed uſually four Seeds; ſuch as *Cynogloſſa* or Hound's-tongue, Wild-bugloſs, Vipers-bugloſs, Comfrey, Mouſe-ear, Scorpion-graſs, *&c.*

12. The *Suffrutices*, or verticillate Plants, Mr. *Ray*, in his laſt Edition of his *Synopſis Methodica Stirp. Britan.* ſaith, The more certain Marks, or Characteriſtick Notes of this Kind of Plants are, that their Leaves grow by Pairs on their Stalks, one Leaf right againſt another, their Flower is monopetalous, and uſually in Form of an Helmet or Hood; there ſucceed four Seeds uſually to each Flower, and which have no other Seed-Veſſel but the *Perianthium*: For that Mark of their Flowers growing in Whirls about the Stalk, as they do in the Dead-nettle, Hore-hound, *&c.* is not

found in all the Plants of this *Genus.* To this Head belong Mother-of-Thyme, Mint, Penny-royal, Vervain, Wood-betony, Self-heal, Ale-hoof, Bugloſs, *Scordium,* Mother-wort, *&c.*

13. Such as have many naked Seeds, at leaſt more than four, ſucceeding their Flowers, which, therefore, they call *Polyſpermæ Plantæ Semine nudo.* By naked Seeds they mean ſuch as are not included in any Seed-pod, or Caſe, out of which they ſpontaneouſly drop; but ſuch as either have nothing at all covering their Seeds, or elſe drop off with their Covering upon them. Of this Kind are Pile-wort, Crow-foot, Marſh-mallows, Avens, Straw-berries, Cinquefoil, Tormentil, Meadow-ſweet, *&c.*

14. Bacciferous Plants, or ſuch as bear Berries; as Briony, Dwarf-Honey-ſuckle, Butcher's-broom, *Solomon*'s-ſeal, Lilly of the Valley, Night-ſhade, Aſparagus, Whorts or Whortle-berries, *&c.*

15. Multiſiliquous, or Corniculate Plants; or ſuch as have after each Flower many diſtinct, long, ſlender, and many Times crooked Caſes, or *Siliquæ,* in which their Seed is contain'd; and which, when they are ripe, open themſelves, and let the Seeds drop out: Of this Kind is the common Houſe-leek, Orpine, Navel-wort, or Wall Penny-wort, Bears-foot, Marſh-marigold, Columbines, *&c.*

16. Such as have a monopetalous Flower, either uniform or difform, and after each Flower a peculiar Veſſel, or Seed-caſe (beſides the common *Calix*) containing the Seed, and this often divided into many diſtinct Cells. Theſe, by ſome, are call'd Vaſculiferous Plants, ſuch as common Henbane, Marſh-Gentian, Bind-weed, Throat-wort, Rampions, Toad-flax, Fox-glove, yellow and red Rattle or Cock's-comb, Eye-bright, *&c.*

17. Such as have an uniform, tetrapetalous Flower, but bear their Seeds in oblong ſiliquous Caſes; as the Stock-gilli-flower, Wall-flower, common Whitloe-graſs, Jack-by-the-hedge, or Sauce alone, common Muſtard, Charlock or wild Muſtard, Radiſh, wild Rocket, Ladies-ſmock, Scurvy-graſs, Woad, *&c.*

18. Vaſculiferous Plants, with a ſeemingly tetrapetalous Flower, but of an anomalous or uncertain Kind: For this Flower, though it be deeply divided in four Segments, is yet really monopetalous, and falls off all together in one; ſuch as Speed-well or Fluellin, wild Poppy, yellow Poppy, Looſe ſtrife, Spurge, and Plantain, (according to Mr. *Ray.*)

19. Leguminous Plants, (or ſuch as bear Pulſe) with a papilionaceous Flower. Their Flower is difform, and almoſt in the Form of a Butter-fly with its Wings expanded, (whence the Name papilionaceous) conſiſting of four Parts, join'd together at the Edges; theſe are Peas, Vetches, Tares, Lentils, Beans, Liquorice, Bird's-foot, Trefoil, Reſt-harrow, *&c.*

20. Vaſculiferous Plants, with a pentapetalous Flower. Theſe, as the 16th and 18th Kind, have, beſides the common *Calix,* or Cup of the Flower, a peculiar Caſe containing their Seed, and their Flower conſiſting of five Leaves; ſuch

as Maiden-pinks, Campions. St. *John*'s-wort, Male Pimpernel, Chick-weed, Crane-bill, Flax, Primroſe, Periwinkle, Centuary, Woodſorrel, Marſh-Trefoil, *&c.*

21. Plants with a true bulbous Root. A bulbous Root conſiſts of but one round Ball or Head, out of whoſe lower Part or Baſis there go many Fibres or Strings to keep it firm in the Earth. The Plants of this Kind, when they firſt appear, come up but with one Leaf, and the Leaves are nearly approaching to thoſe of the Graſs-kind of Plants, for they have no Footſtalk, and are long and ſlender: the Seed-Veſſels are divided into three Partitions; their Flower is uſually hexapetalous, or ſeemingly divided into ſix Leaves or Segments; ſuch as Garlick, Daffodil, Hyacinth, Saffron, *&c.*

22. Such as have their Roots approaching to a bulbous Form. Theſe emit, at firſt coming up, but one Leaf, and in Leaves, Flowers and Roots, reſemble the true bulbous Plants; ſuch as Flower-de-Lis, Cuckoo-pint, Orchis, Broom-rape, Baſtard-Hellebore, Tway-blade, Winter-green, *&c.*

23. Culmiferous Plants, with a graſſy Leaf, and an imperfect Flower. Culmiferous Plants are ſuch as have a ſmooth hollow jointed Stalk, with one long ſharp-pointed Leaf at each Joint, encompaſſing the Stalk, and ſet on without any Foot-ſtalk: their Seed is contain'd within a chaffy Husk; ſuch as Wheat, Barley, Rye, Oats, and moſt Kinds of Graſſes.

24. Plants with a graſſy Leaf, but not culmiferous, with an imperfect or ſtamineous Flower; as Cypreſs Graſſes and Ruſhes, Cats-tail, Burr-read, *&c.*

25. Plants whoſe Place of Growth is uncertain and various, but chiefly Water-Plants, as the Water-lilly, Water-milfoil, Water-wort, Pepper-graſs, Mouſe-tail, Milk-wort, Dodder, *&c.*

There is alſo another uſual Diviſion of Plants into Trees, *Frutices* or Shrubs, and *Suffrutices* or Herbs; but this is rather popular and vulgar, than juſt and philoſophical.

Plants Imperfect, are, by the Botaniſts, accounted ſuch as either really want Flower and Seed, or rather ſeem to want them; ſince no Flower or Seed hath yet been diſcover'd to belong to much the greateſt Part of them. Theſe Mr. *Ray* diſtinguiſhes according to the Place of their Growth; into, I. *Aquaticks*, or ſuch as grow in the Water; and that either in the Sea, and then they are call'd *Marine Plants*; and thoſe are either of an hard and ſtony Conſiſtence, as the *Corals*, *Corollines*, *Porus*; or of a more ſoft and herbaceous one. Of theſe ſome are like Herbs, and are of two Kinds; the greater, which are *Cauliferous*, as the *Fucus*: the leſſer, as the *Alga*. The others are more of the *Muſcus* or *Fungus* Appearance, as the *Spongia*. *Freſh-water-Plants*; and thoſe have either no Leaves, but are *Capillaceous*, as the *Conferva*: Or their Leaves divided into three Parts; as the *Lens paluſtris*, *Lenticula*, &c. II. Such imperfect Plants as inhabit the dry Ground, he divides into, (1.) Such as have a Subſtance, either woody or fleſhy; and theſe have ſcarce any Thing common to the perfect Plants, neither the green herbaceous Colour, nor the Texture of Herbs, nor Flower, Seed, nor Leaf, properly ſpeaking, as all the *Fungi :* which are, 1. Such as grow on Trees, and therefore, call'd *Arboreous*; as the *Fungus Laricis*, call'd *Agarick*, and the *Fungus Sambuci*, which we call *Jews-ear*, or *Auricula Judæ*, in *Latin*. 2. *Terreſtrial :* and theſe are either *Cauliferous*, with Heads either lamillated, or porous underneath ; or without Stalks, as the *Pezice* of *Pliny*, and *Fungus Pulverulentus*, *Crepitus Lupi*, or common Puff-balls. 3. *Subterraneous*; as the *Tubera terræ*, or *Truffles.* (2.) Such as have a more ſoft and dry Conſiſtence, and more like that of Herbs ; of which ſome are both *Cauliferous* and branched, as the *Muſci* or *Moſſes.* Others are without Stalks, adhering like a Cruſt to the Surface of the Earth, Stones, Trees, or Wood ; as the *Lichen Terreſtris* and *Arboreus*.

Planta Pedis, is the Sole of the Foot. Hence,

Plantaris Muſculus, is a Muſcle that hath a fleſhy Beginning from the Back-part of the external Protuberance of the Thigh-bone, and deſcending a little Way between the *Gemellus* and *Soleus*, it becomes a long and ſlender Tendon, which marches by the Inſide of the great Tendon, and at the Sole of the Foot is expanded into a large *Aponeuroſis*, which hath the ſame Uſe, Situation, and Connection, as that of the Palm of the Hand.

Plaſtica Virtus, a plaſtick Power. This is a Term of a vague Signification, invented, by ſome, to expreſs the Faculty of Generation or Vegetation, inſtead of a better Account of thoſe Matters.

Plectrum, thus ſome call the ſharp Part of the *Os Petroſum* ; and others apply it to other Parts, as the *Uvula*, &c. but their Authority is not much follow'd.

Plenitude, ſometimes us'd in the ſame Senſe as *Plethora* ; which ſee.

Plenum. See *Vacuum*, and *Nature Laws of.*

Pleroticks, from πλερόω, *impleo*, to fill; are ſuch Medicines as *Incarnatives*, which ſee.

Plethora, from πλερόω, *impleo*, to fill, is when the Veſſels are fuller of Humors, than is agreeable to a natural State, or Health : and ariſes either from a Diminution of ſome natural Evacuations, or from Debauch, and Feeding higher, or more in Quantity than the ordinary Powers of the *Viſcera* can digeſt and ſecern. Evacuation and Exerciſe are its Remedy. Hence,

Plethoricus, is a Perſon under a *Plethora.* See *Menſes.*

Pleura, is a double Membrane which covers all the Cavity of the *Thorax.* It ariſes from the *Vertebræ* of the Back, aſcends on each Side upon the Ribs to the Middle of the *Sternum.* It is fix'd to the *Perioſteum* of the Ribs, to the internal intercoſtal Muſcles, and it covers the Midriff. Its Side towards the Cavity is ſmooth and equal ; but that which is fix'd to the Ribs is rough. Hence,

Pleuritis, a Pleuriſy, is an Inflammation of this Membrane ; though that is hardly diſtinguiſhable from an Inflammation of any other Part of the Breaſt, which are all from the ſame Cauſe, a ſtagnant Blood; and are to be remedy'd by Evacuation, Suppuration, or Expectoration, or all together ; as in a *Peripneumonia :* this is alſo divided into legitimate, and *notha*, ſpurious, but it is of no great Service in Practice to make ſuch Diſtinction.

Pleuro-pneumonia, is us'd, by ſome modern Writers, for a Mixture of a Pleuriſy and a *Peripneumonia* together, which may happen: and others, particularly *Dolæus*, invert the Words, calling it *Pneumopleuritis*.

Plexus Choroides, is a wonderful Contexture of ſmall Arteries in the Brain like a Net, for which Reaſon it is ſometimes call'd

Plexus Reticularis, the Net-like Union; it is juſt over the pineal Gland.

Plexus Ganglioformis, and

Plexus Nervoſus, is a Combination of Nerves together, as it were, into a Knot, as they do in ſeveral Parts of the Body, eſpecially, in the

Plexus Cervicalis. See *Nerve*.

Plica, from *plico*, to fold, is a Diſtemper peculiar to *Poland*, where the Hair is matted together in a ſtrange Manner, as it grows in a Cow's Tail.

Plume, is a Term us'd by Botaniſts, for that Part of the Seed of a Plant, which, in its Growth, becomes the Trunk: It is incloſ'd in two ſmall Cavities form'd in the Lobes for its Reception, and is divided at its looſe End into divers Pieces, all cloſely bound together like a Bunch of Feathers, whence it has this Name; *Pluma* ſignifying a Feather.

Pneuma, properly ſignifies Spirit, or Wind; whence,

Pneumaticks, is that Part of Natural Philoſophy which teaches the Properties of the Air; and hence alſo,

Pneumatocele, from πνεῦμα, *Ventus*, Wind, and κήλη, *Tumor*, a Swelling, is a Rupture from pent up Wind or Vapour; and is to be cur'd by Diſcuſſion.

Podagra, from ϖȣ̃ς, *Pes*, the Foot, and ἀγρεύω, *capio*, to ſeize, is the Gout in the Feet: and

Podagra Dentium, is ſometimes us'd for the Tooth-ach, but improperly. See *Gout*.

Podex, the ſame as *Anus*; which ſee.

Point, is that which is ſuppos'd to have no Manner of Dimenſions, but to be indiviſible in every Reſpect; and is, as it were, the Beginning of Dimenſion.

Poiſon. The World is greatly indebted to Dr. *Mead*, for his Eſſays on this Subject, becauſe they have brought to our Underſtanding thoſe Things, which us'd to be talk'd only in an ambiguous, myſterious Manner. The firſt Eſſay upon the *Viper* reminds us, That the Symptoms which follow, upon the Bite of that Creature, are an acute Pain in the Place wounded, with a Swelling, at firſt red, but afterwards livid, which, by Degrees, ſpread further to the neighbouring Parts, with great Faintneſs, and a quick, though low, and ſometimes interrupted Pulſe; great Sickneſs of the Stomach, with bilious convulſive Vomitings, cold Sweats, and ſometimes Pains about the Navel: and, if the Cure be not ſpeedy, Death itſelf, unleſs the Strength of Nature be ſufficient to overcome the Diſorders, which ſometimes happen. The Wound runs with a ſanious Liquor, and the Colour of the whole Skin is changed yellow, as in the Jaundice. The Bite is accompany'd with an Effuſion of Juice that inſtils into the Wound; and tho' this be in an inconſiderable Quantity, yet its Execution is very ſurprizing.

prizing. In it, with a Microſcope, may be diſcern'd a Parcel of ſmall Salts nimbly floating about, but, in a ſhort Time, they will ſhoot into Cryſtals of an incredible Tenuity and Sharpneſs, with ſomething like Knots here and there, from which they ſeem to proceed; ſo that the whole Texture, in a Manner, repreſents a Spider's Web.

Theſe pungent Salts then, when they are thrown into the Wound, will not only, as ſo many *Stimuli*, irritate and fret the ſenſible Membranes, whereupon there neceſſarily follows a greater *Afflux* than ordinary of the animal Juices that Way, (as is manifeſt from the *Bellinian* Doctrine *de Stimulis*) ſo that the wounded Part muſt be ſwell'd, inflam'd, livid, *&c.* but alſo, thoſe *Spicula*, being mix'd with the Blood, will ſo disjoin the Parts of it, that its Mixture muſt be quite alter'd; and, from the various Coheſion of its Globules, will ariſe ſuch different Degrees of Fluidity and Impulſe towards the Parts, from what this Liquor had before, that its very Nature will be changed, or in the common Way of ſpeaking, it will be truly and really fermented. To underſtand which aright, it may be neceſſary to obſerve, that there is in all Fluids, not only a ſimple Contact of their Parts, but a *Niſus in Contactum*, or Coheſion; which is the ſame Thing with the Attraction of the Particles one to another. To which may be added, that there is a Preſſure of the ſeveral Parts of a Fluid every Way, and that this uniform Attraction of the Parts to one another muſt be variouſly changed by the different Attraction of heterogeneous Bodies mix'd with them: and hence it follows, that whatſoever Power is ſufficient to make a Change in this Attraction, or Coheſion of the Parts, makes an Alteration in the Nature of the Fluid; that is, as it is commonly expreſſed, puts it into a Fermentation. Now it is to be obſerv'd alſo, that the Blood conſiſts chiefly of two Parts, a ſimple Lymph, and an infinite Number of ſmall Globules, containing a very ſubtile and elaſtick Fluid; theſe acute Salts, therefore, when mingled with it, do prick theſe Globules, or *Veſiculæ*, and ſo let out their impriſon'd active Subſtance, which, expanding itſelf every Way, muſt neceſſarily be the Inſtrument of this ſpeedy Alteration.

From this we may learn how ſo ſmall a Portion of Juice ſhould infect ſo great a Quantity of Liquor: for, in order to do this, it is not neceſſary that the Venom ſhould be, at the very firſt, mix'd with all its Parts; but it is ſufficient that it pricks ſome of the Bladders; and the elaſtick Matter of ſome of theſe, being let out, will be a nimble Vehicle to the acute Salts, and not only, by its Activity, diſperſe them thro' the Fluid, but reſtore to them their decreaſing Force, and thus continue their Effects, 'till a great Part of the Liquor undergoes, in ſome Degree at leaſt, the like Alterations. Hence alſo appears what a vaſt Variety there may be in the Fermentations, even of one and the ſame Fluid; for theſe, being no other than Changes made in the Coheſion of the compounding Particles, are capable of as many Alterations, as Motion in its Degrees and Directions can admit of,

which

which are really infinite. The Effects of ſuch an Agitation of the Blood muſt not only be whatever are the Conſequences of a diſturb'd Circulation, and an irregular and interrupted Secretion of the Spirits, as low Pulſe, Faintings, Sickneſs, Palpitation, convulſive Vomitings, Tremblings, &c. but alſo, the Texture of the Fluid being thus broken, thoſe Parts of it, which are of the ſloweſt Motion, and greateſt Viſcidity, will be eaſily ſeparated from others; ſuch they are, which, when united together, do compound the Bile, and therefore, theſe will tinge the capillary Veſſels and fine Ducts in the Skin, with a yellowiſh Colour. And it may likewiſe be taken Notice, that though the main Alterations made by this Poiſon be in the Fluid of the Arteries, yet that of the Nerves may be conſiderably changed too; for this conſiſting, as well as the Blood, of different Parts, and being diſpers'd in ſmall Tubes all over the Body, is not only very capable of various Degrees of Force, Impulſe, &c. but undulating continually towards the Brain, and being the chief Inſtrument of Motion and Action, may, perhaps, ſometimes, more immediately convey the Miſchief to the ſenſible Membranes, and thus be the Cauſe of thoſe violent Pains, Convulſions, Sickneſs, &c. with which thoſe who are bitten are preſently ſeiz'd.

Moſt of the Symptoms of thoſe who are bit by a *Tarantula* agree with the Effects of the Viperine Poiſon. The Nature of this, therefore, may be conjectur'd to conſiſt in its great Force and Energy, whereby it immediately raiſes an extraordinary Fermentation in the whole arterial Fluid; whereby its Texture and *Craſis* is conſiderably alter'd: the Conſequence of which Alteration, when the Ebullition is over, muſt neceſſarily be a Change in the Coheſion of its Parts, by which the Globules, which did before, with equal Force, preſs each other, have now a very differing and irregular *Niſus* or Action; ſo that ſome of them do firmly cohere together, as to compoſe *Moleculæ*, or ſmall Cluſters: Upon which Account, there being now a greater Number of Globules contain'd in the ſame Space than before; and beſides, the Impulſe of many of theſe, when united together, differing according to the Conditions of their Coheſion, a to Magnitude, Figure, &c. not only will the *Impetus*, with which thi Fluid is drove towards the Parts be at ſome Strokes greater tha ordinary, but the Preſſure upo the Blood-Veſſels muſt be ver unequal and irregular; and this more eſpecially, will be felt i them which are moſt eaſily di tended, ſuch are thoſe of th Brain, &c. And hereupon, th Fluid of the Nerves muſt nece ſarily be put into various undul tory Motions, ſome of which wi be like unto thoſe, which differe Objects, acting upon the Orga or Paſſions of the Mind, do nat turally excite in it: whereupo ſuch Actions muſt follow in th Body, as are uſually the Conſ quences of the ſeveral Species Sadneſs, Joy, Deſpair, or the lik Determinations of Thought. Thi in ſome Degree, is a Coagulatio of the Blood, which will the mo certainly, when attended with u common Heat, as is the Caſe thoſe Countries where theſe Cre tur tures abound, produce ſuch like Effects as theſe; becauſe the Spirits ſeparated from the Blood, thus inflam'd, and compounded of hard, fix'd, and dry Particles, muſt unavoidably ſhare in this Alteration: that is, whereas their Fluid conſiſts of two Parts, one more active and volatile, the other more viſcid and glutinous, which is a Kind of Vehicle to the former; their active Part will bear too great a Proportion to the viſcid, and they muſt be neceſſarily of more than ordinary Volatility and Force, and will, therefore, upon the leaſt Occaſion imaginable, be irregularly determin'd to every Part: whereupon will follow Tremblings, Anger or Fear, upon a light Cauſe, extreme Pleaſure at what is trivial, as particular Colours, or the like: and, on the other Hand, Sadneſs at what is not agreeable to the Sight; nay, Laughter, obſcene Talk and Actions, and ſuch like Symptoms, as attend Perſons bit: becauſe, in this Conſtitution of the nervous Fluid, the moſt light Occaſion will make as real a Reflux and Undulation of it to the Brain, and preſent as lively Species there, as the ſtrongeſt Cauſe and Impreſſion can produce in its natural State and Condition; nay, in ſuch a Confuſion, the Spirits cannot but ſometimes, without any manifeſt Cauſe at all, be hurry'd towards thoſe Organs, to which, at other Times, they have been moſt frequently determin'd; and every one knows which they are in hot Countries.

The Hiſtories of theſe Caſes ſufficiently inform us of the Effects of Muſick upon Perſons touch'd with this Poiſon: and that proving their Cure, is no ſmall Confirmation, that this is the Manner whereby this Poiſon operates. Though the Perſons bit have no Inclination to dance, and ſay, They have not Strength to do it, 'till they hear the Muſick: as for the Reaſon, therefore, of their ſtarting up at the firſt Noiſe of the Inſtrument, it muſt be conſider'd, that muſcular Motion is no other than a Contraction of the Fibres from the arterial Fluid, making an Efferveſcence with the nervous Juice, which, by the light Vibration and Tremor of the Nerve, is deriv'd into the Muſcle. And thus there is a two-fold Effect and Operation of the Muſick, that is, upon the Body and the Mind: for, a briſk Harmony excites lively Species of Joy and Gladneſs, which are always accompany'd with a more frequent and ſtronger Pulſe, or an increas'd Influx of the Liquor of the Nerves into the Muſcles, upon which, ſuitable Actions muſt immediately follow. As for the Body, ſince it was ſufficient to put the Muſcles into Action, to cauſe thoſe Tremors of the Nerves, by which their Fluid is alternately dropp'd into the moving Fibres, it is all one, whether it be done by the Determination of the Will, or the outward Impreſſion of the elaſtick Fluid; ſuch is the Air, and, that Sounds are the Vibrations of it, is beyond Diſpute. Theſe, therefore, rightly modulated, may ſhake the Nerves as really as the *Imperium Voluntatis* can do, and conſequently, produce the like Effects. The Benefit of Muſick is not only their dancing to it, and ſo evacuating, by Sweat, a great Part of the inflammatory Fluid; but, beſides this, the repeated Percuſſions of the Air hereby made,

by

by immediate Contact, ſhaking the contractile Fibres of the Membranes of the Body, eſpecially thoſe of the Ear, which, being continuous to the Brain, do communicate their Tremblings to its Membranes and Veſſels; by theſe continu'd Succuſſions and Vibrations, the Coheſion of the Parts of the Blood is perfectly broken, and the Coagulation prevented: ſo that the Heat being remov'd by ſweating, and the Coagulation by the Contraction of the muſcular *Fibrillæ*, the wounded Perſon is reſtor'd to his former Condition.

If any one doubts of this Force in the Air, he may conſider, that it is in Mechanicks demonſtrated, that the ſmalleſt Percuſſion of the ſmalleſt Body can overcome the Reſiſtance of any great Weight which is at Reſt; and that the languid Tremor of the Air, which is made by the Sound of a Drum, may ſhake the vaſteſt Edifices. But, beſides all this, we muſt allow a great deal to the determinate Force, and particular Modulation, of the trembling Percuſſions; for contractile Bodies may be acted upon by one certain Degree of Motion in the ambient Fluid, though a greater Degree of it, differently qualify'd, may produce nothing at all of the like Effect: this is not only very apparent in the common-ſtring'd muſical Inſtruments tun'd both to the ſame Height; but alſo in the Trick, which many have of finding the Tone or Note peculiarly belonging to any Wind-glaſs; and by accommodating their Voice exactly to that Tone, and yet making it loud and laſting, they will make the Veſſel, tho' not touch'd, firſt to tremble, and then burſt; which it will not do, if the Voice be too low, or too high. And this makes it no difficult Matter to conceive, why different Perſons, infected with this Venom, do require a different Sort of Muſick, in order to their Cure, in as much as the Nerves and diſtractile Membranes have different Tenſions, and conſequently, are not, in like Manner, to be acted upon by the ſame Vibrations.

The next Species of Poiſon, taken Notice of by this Author, is that of the *Mad Dog*, which induces pretty much the ſame Symptoms in time, with the Addition of an *Hydrophobia*, or Dread of Water. To underſtand which rightly, it is neceſſary to obſerve, that the *Rabies*, or Madneſs in a Dog, is the Effect of a Fever; and therefore, it is moſt common in exceſſive hot Weather, though ſometimes intenſe Cold may be the Cauſe of it: that no Dog, in this Caſe, ever ſweats; from whence it follows, that when his Blood is in a Ferment, it cannot, as in other Creatures, diſcharge itſelf upon the Surface of the Body, and therefore, muſt of Neceſſity throw out a great Number of ſaline and active Particles upon thoſe Parts, where there is the moſt conſtant and eaſy Secretion; and ſuch, next to the Milliary in the Skin in us, are the ſalival Glands: for this Reaſon, much more Spittle is ſeparated in a Dog, when mad, than at any other Time, and that very frothy, or impregnated with hot ſubtile Parts.

Now, as what we every Day obſerve, that what is thrown out from Liquors, in a Ferment, is capable of inducing the like Motion in another Liquor of the ſame

Kind, when duly mix'd with it; ſo we may very well ſuppoſe in the preſent Caſe, that the *Saliva*, which is, of itſelf, one of the moſt fermentative Juices in Nature, being turgid with fiery ſaline Particles thrown into it out of the boiling Blood, when it comes, by Means of a Wound, to be incorporated with the arterial Fluid of any one, does, by Degrees, raiſe a preternatural Ferment in it: the Effects of which will neceſſarily be moſt felt in thoſe Parts, which, being tender, are the leaſt able to reſiſt the Diſtenſion of the Blood-Veſſels; ſuch are the Stomach, and eſpecially the Brain: and hereupon *Deliria*, with maniacal and ſuch like Symptoms, will enſue. A Perſon, thus affected, may be ſaid, in a Degree, to have put on the canine Nature, though his Reaſon be all this time untouch'd and entire, may bite, howl, *&c.* becauſe the like violent Agitation of the Blood in him, as was in the Dog, will preſent like Species, and conſequently (ſo far as their different Natures will allow) produce like Actions: Juſt as it hath been obſerv'd, that Sheep, bitten by a mad Dog, have run at the Shepherd, like ſo many Dogs, to bite him; ſo much can an Alteration of Blood and Spirits do. And as a timorous Creature may be emboldened, ſo we oftentimes ſee Perſons courageous enough, by a Change made in the Blood by Evacuation, that is, by Want of Force and Motion in that Fluid, made Cowards, in Deſpite of their Reaſon, ſo long as that Defect is continu'd.

But the main Difficulty in this Caſe is, the Miſchief diſcovering itſelf ſo long after the Bite; and the *Hydrophobia*. As to the former, we are to conſider, that Fermentation being a Change made in the Coheſion of the compounding Parts of a Fluid, it is ſometimes a longer, and ſometimes a ſhorter Time, before this Alteration is wrought; which Variety may either proceed from the different Nature and Conſtitution of the Ferment, or of the Liquor fermented, and a great Number of Circumſtances beſides: ſo that this Venom may be all the while doing its Work, though the Change made by it may not be ſo conſiderable, as to be ſenſibly taken Notice of, 'till a long Time after. Nay, it may ſo happen, that the Ferment, being weak, may not raiſe in the Blood any remarkable Agitation at all, 'till ſome accidental Alteration in the Body unluckily gives it an additional Force. As it is alſo obſerv'd, how much Heat concurs to heighten the Symptoms from the Bite of a *Tarantula*. And this may probably be the Caſe of thoſe in whom this Malignity has not appear'd, 'till ſix or twelve Months after the Wound.

That we may underſtand the Reaſon of the *Hydrophobia*, it is to be remark'd, that this Dread of Water does not come on, 'till the latter End of the Diſeaſe; that is, not 'till the preternatural Fermentation in the Blood is come to its Height; and, as in the Dog, ſo in the Patient, a great Quantity of fermentative Particles is thrown off upon the Glands of the Mouth and Stomach, as appears by foaming at the Mouth, *&c.* as alſo, that this Fear is not from a Sight of Water: for, if the Veſſel be cloſe ſhut, and the Patient ſuck through a Quill, as ſoon as he taſtes it, he falls into Anguiſh and Convulſions. It is, therefore, highly probable, if not certain, that this ſurprizing Symptom proceeds from the intolerable Pain which any Liquor taken at this Time induces, partly by its hurting the inflamed Membranes of the Jaws in Deglutition, and partly by fermenting with thoſe active Particles diſcharged by the Blood upon the ſtomachick Glands, and thus twitching and irritating the nervous Membranes, that the very Memory of it gives Pain and Abhorrence: Nor will any Body wonder how this Ferment ſhould cauſe ſuch Torment, who conſiders, how often even in cholical Caſes, Perſons are downright diſtracted by exceſſive Pain, from a Cauſe not unlike to this, that is, a corroſive Ferment in the Bowels, ſtimulating thoſe tender Membranes into ſpaſmodick and convulſive Motions.

The moſt celebrated Cure in this Caſe is Cold-Bathing, the Effects of which any one may be apprized of, by comparing what is ſaid under that Term, with what has been here ſaid of the Effects of Muſick.

For what concerns thoſe Poiſons which proceed from Minerals, they all of them bear ſo much Analogy to what is made from Quickſilver in the common Sublimate, as to be underſtood by what is ſaid under that Head, (ſee *Mercury*;) and they are all more or leſs dangerous, according as their Salts receive a differing Force from the metallick Particles: For this Reaſon, as hath been obſerved, that the moſt virulent may be mitigated by breaking the Points of the ſaline Chryſtals; ſo on the other Hand, the moſt innocent Minerals may become corroſive, by combining them with Salts, as is ſeen in the ſeveral Preparations of Silver, Antimony, Iron, *&c.*

Vegetable Poiſons may be underſtood by what is ſaid under *Narcoticks*, which ſee. But that venomous Exhalations are from poiſonous Minerals, is a Miſtake, becauſe many of them are of a Nature ſo different from mineral Poiſons, that the very Subſtance from which they ariſe may not be hurtful, though taken into the Stomach itſelf. Theſe are all included in the Word *Mephitis*. The moſt celebrated of this Kind is that in *Italy*, called *La Grotta de Cani*, which though it may not be univerſally applicable to any *Mephitis* whatſoever, yet it ſeems plainly to be the Caſe of moſt; and where it is not, this ſimple Miſchief will only be found to be complicated with another: And then ſome extraordinary Symptoms or Appearances, in the Animals kill'd, will eaſily make a Diſcovery of the additional Venom and Malignity.

This is a ſmall Grotta at the Foot of a Hill about eight Feet high, twelve long, and ſix broad; from the Ground riſes a thin, ſubtile, warm Fume, viſible enough to the Eye, which does not ſpring up in little Parcels here and there, but in one continued Steam, covering the whole Surface of the Bottom of the Cave; and has this remarkable Difference from common Vapours, that it does not diſperſe itſelf into the Air, but quickly after its Riſe falls back again, and returns to the Earth, the Colour of the Sides of the Grotta being the Meaſure of its Aſcent; for ſo far it is of a darkiſh Green, but higher only common Earth, and this is but ten Inches; ſo no Animal, if its Head be kept above this Mark, is injured by it:

But when a Dog, or any other Animal, is forcibly held below it, or by reaſon of its Smalneſs cannot hold its Head above it, it preſently, like one ſtunned, loſes all Motion, falls down as dead, and has no more Sign of Life left than a faint beating of the Heart and Arteries, which, if the Animal is left longer, ceaſes too; but, if ſnatched out and laid in the open Air, ſoon comes to Life again, and ſooner if thrown into an adjacent Lake. Herein ſeems no Suſpicion of real Poiſon; becauſe if there were, it would be impoſſible that Animals, taken out of the Grotta, ſhould ſo immediately recover the Effects of it, without any remaining Appearance of Faintneſs, or ſuch Symptoms as they ſuffer who have breathed in a poiſonous Air. To underſtand, therefore, wherein this deadly Quality conſiſts, it is needful to premiſe, that Life is the Circulation of the Blood: and the Regularity of it is the Meaſure of Health. Now all the animal Operations and Offices, which proceed from this Circulation, are the Effects of ſeveral Secretions of Liquors, of very different Natures, out of the ſame fluid Maſs. It was, therefore, abſolutely neceſſary, that the Blood, before it be diſtributed to the Organs, ſhould be ſo broken, as that no Coheſion of its Parts ſhould hinder the Separation of theſe Juices from it, when it arrives with a determinate Force at the Orifices of the ſecretory Veſſels. This Work is done in its Paſſage through the Lungs, by the repeated Compreſſion of the Air in thoſe Bladders upon the Arteries, with wonderful Contrivance diſperſed among them; (ſee *Lungs.*) Herein lies the Uſe and Neceſſity of Reſpiration, and the ſudden Miſchief of ſtopping it, in that the whole Maſs of Blood being to paſs this Way, upon a Check here, there preſently enſues a Stagnation, that is, a Ceſſation of all animal Functions, or Death; which will be the more ſpeedy, if not only no Air is inſpired, but, in the Room of it, a Fluid of a quite different Nature.

Wherefore, it muſt be obſerved alſo, that this good Effect of the Air is performed by its Elaſticity; and that no Fluid whatſoever beſides is elaſtick, at leaſt to any conſiderable Degree; that is, has a Faculty of expanding and dilating it ſelf, when compreſſed. Now therefore, in the Caſe before us, the Vapour is one continued and uninterrupted Steam, and, after its Riſe, it ſoon falls down again; ſo that it has little or no Mixture of Air with it, or no Elaſticity; and is on the other Hand very heavy, when forſaken by the Force of the Heat that drove it upwards. So that Animals in this Place do, inſtead of Air, inſpire mineral Fumes, that is, a thin watry Vapour, impregnated with ſuch Particles as do, when united together, compoſe ſolid and heavy Maſſes; which is ſo far from helping the Courſe of the Blood through the Lungs, that it rather expels the Air out of the *Veſiculæ*, and ſtraitens the Paſſage of the Blood-Veſſels, by its too great Gravity: Whereupon the Bladders are relaxed and ſubſide, and the Circulation is immediately interrupted. But when the Animal is in time removed out of this Steam, that ſmall Portion of Air which does after every Expiration remain in the *Veſiculæ*, may be powerful enough to drive out this noxious Fluid; eſpecially if the Head of the Creature be held downwards, that ſo its Gravity may forward its Expulſion; or it be thrown into Water, which by aſſiſting, upon the account of its Coldneſs, the Contraction of the Fibres promotes the retarded Circulation; as is every Day experienced in ſwooning Fits.

Another Species of Poiſon, or Venom, is that by which ſome Fevers, and thoſe Diſeaſes which are called Peſtilential, are communicated to others; in which Caſe it is to be remember'd, that ſuch Infection happens not till the latter End of the Diſtemper, that is, when the fermenting Blood has thrown off great Quantities of active fermentative Particles upon the Glands of the moſt conſtant and eaſy Secretion: ſuch as thoſe in the Surface of the Body, and the Mouth and Stomach. By this means, therefore, the Matter of inſenſible Perſpiration, and the Sweat is impregnated with theſe *Miaſmata*: So that the ambient Air becomes fill'd with them; whereby not only ſome may inſinuate themſelves into the Blood of a ſound Perſon thro' the Pores of the outward Skin, but alſo in Inſpiration thro' the Membranes of the Lungs: And thus the like Ferment will be raiſed here, as was in the originally diſtempered Subject. This may be one, but there, is perhaps, another more dangerous Manner of Infection, by the Breath of the Diſeaſed taken in by a By-ſtander, eſpecially in the laſt Moment, ſeizing the Stomach, and fixing a Malignity there. For it is upon this Score, that thoſe who are infected do preſently complain of an extreme Pain and *Nauſea* in the upper Orifice of the Stomach. Herein lies the Difference of Contagion from the firſt Invaſion of malignant Diſeaſes; the Effects of the one are the Cauſe and Beginning of the other; and therefore, it is no Wonder, if, tho' the Symptoms of the former are, by a gradual Increaſe, wrought up to their Height, they do, however, in the latter, even at the very firſt, diſcover their Ill-nature and Violence; and like a reinforced Enemy, by ſurer Strokes, make quicker Diſpatch. And this is undoubtedly the Reaſon for the great Increaſe of Funerals in Plagues, in that one Death is thus added to another.

Polarity: That Property of the Magnet, or of a Piece of Iron, to point towards the Poles of the World, is thus called.

Polium, is an Ingredient in the *Theriaca Andromachi*, but is not remarkable enough, upon any other Account, to be worth notice.

Pollen, expreſſes ſomewhat in a finer Powder than what is commonly underſtood by *Farina*.

Pollex, the Thumb, or great Toe. See *Digitus*.

Pollution Nocturnal, is an involuntary Emiſſion of Seed, from too great a Turgeſcency of the Seminal Veſſels, or from the Seed's being too thin and irritating, or from a Weakneſs of the Parts.

Polyanthos, or *Polyanthium*, from ϖολὺς, *multus*, many, and ἄνθος, *Flos*, a Flower, is any Plant bearing many Flowers.

Polychreſton, ϖολύχρηστος, *ad multa utilis*, the ſame as *Polypharmacon*, a Medicine of many Virtues, or that will cure many Diſeaſes. It hath, therefore, been conceited given to many Preparations and Compoſitions, which have been far from deſerving ſuch Encomium, and ſome of which yet remain in the common Diſpenſatories.

Polygon, from ϖολὺς, *multus*; and γωνία, *angulus* is a Figure of many Sides.

Polypetalous, from ϖολὺς, *multus*,

many, and ϖέταλον, *Folium*, a Leaf. See *Plant.*

Polypus, ϖολύπȣς, having many Feet, ſignifies any thing in general with this Property, as the *Millepedes*; tho' there is another Animal to which it is more particularly applied, deſcribed by *Aldrovandus*; but figuratively it is transferred to ſomething in an human Body, as a Swelling in the Hollow of the Noſtrils, called often a *Sarcoma*; many Inſtances of which are to be met with in the Hiſtories of Phyſick; but it is more latterly alſo applied to a tough Concretion of grumous Blood in the Heart and Arteries, ſometimes adhering to the Coats of the Veſſels where it is formed, and at others not ſo, when it is called *Pendulous.* In the *Lypſick* Tranſactions for the Year 1684, there is the Hiſtory of a *Polypus* in the Kidnies; and *Ruyſch* gives the Figure of a fleſhy *Polypus* taken out of the Womb.

Polyſpermous from ϖολὺς, *multus*, much, and σπέρμα, *Semen* Seed. Thoſe Plants are thus called which have more than four Seeds ſucceeding each Flower, and this without any certain Order or Number. Theſe Mr. *Ray* makes to be a diſtinct Kind of Herbs, calling 'em *Herbæ Semine nudo Polyſpermæ*; where by *Semine nudo* are meant ſuch Seeds as do not put off ſpontaneouſly the Integuments or Coverings, which they either have, or appear to have, but fall off covered with it from the Mother-Plant.

Pomatum, from *Pomum*, an Apple, an Ointment wherein Apples are a conſiderable Part; but what is now made under that Name, quite leaves them out.

Pomiferous, from *Xomum*, an Apple, and *fero*, to bear; thoſe Plants are thus called which have the largeſt Fruit, and are covered with a thick hard Rind, by which they are diſtinguiſhed from the *Bacciferous*, which have only a thin Skin over the Fruit.

Pompholyx, ſignifies a Drop or Bladder, containing nothing but Vapour, which ſeems to be the Reaſon, why this is ſometimes called *Nil*, or *Nihilum*, Nothing; becauſe it is a fine ſubtile Matter that riſes and ſticks to the upper Part of the Furnace in the making Braſs. It very much reſembles Tutty, and is frequently called white Tutty. It is cooling and drying, and uſed as an Ingredient in the *Unguentum Diapemphioligos.*

Pomum Adami, a Protuberance in the Fore-part of the Throat. Some fancy to call it by this Name upon a ſtrange Conceit, that a Piece of the forbidden Apple, which *Adam* eat, ſtuck by the Way, and was an Occaſion of it.

Pons Varolii, *Varolius*'s Bridge, is a Proceſs in the Brain, thus called becauſe *Varolius* was the firſt that took notice of it.

Poples, is that Part where the Thigh is joined to the *Tibia.* Whence,

Poplitæus, is a Muſcle that ariſes from the external and inferior Protuberance of the Thigh-Bone; and, paſſing over the Joint obliquely, is inſerted into the ſuperior and internal Part of the *Tibia.* This aſſiſts in bending of the Leg, and turns it inwards.

Poplitæa Vena is alſo a Vein running under the Ham.

Popularis Morbus, popular Diſeaſe, is the ſame as *Epidemick*; which ſee.

Populeon, the Name of an officinal Ointment from the Poplar Leaves, which are its chief Ingredient. *Paracelſus* will have it, that this mixed with any purging Electuary,

tuary, and applied to the Feet, will operate like a Cathartick taken in the common Way.

Pori, Pores, are ſmall Interſtices between the Particles of Matter which conſtitute every Body, or between certain Aggregates or Combinations of them. The moſt ſolid Bodies have ſome Kind of Pores, otherwiſe all would be alike ſpecifically heavy. Sir. *Iſaac Newton* has ſhewn that Bodies are much more rare and porous than is commonly believed. Water is 19 times lighter, and conſequently rarer, than Gold: And Gold itſelf is ſo rare, as very readily, and without the leaſt Oppoſition, to tranſmit the magnetick *Effluvia*, and eaſily to admit Quick-ſilver into its Pores, and to let Water paſs thro' it: For a concave Sphere of Gold hath, when filled with Water, and ſodder'd up, upon preſſing with a great Force, let the Water ſqueeze thro' it, and ſtand all over its Out-ſide in Multitudes of ſmall Drops like Dew, without burſting or cracking the Gold: Whence it way be concluded, that Gold hath more Pores than ſolid Parts, and by Conſequence, that Water hath above 40 times more Pores than Parts. The Magnet tranſmits its Virtues without any Diminution or Alteration, thro' all cold Bodies that are not magnetick, as Gold, Silver, Braſs, Glaſs, Water, *&c.* The Rays of Light, let them be either Bodies actually coming to us from the Sun, or only Motions or Impreſſions upon the Medium, move in right Lines, and are hardly ever, unleſs by great Chance, reflected back again in the ſame right Line after their Impingence upon Objects; and yet we ſee that Light is tranſmitted to the greateſt Diſtances through pellucid Bodies, and that in right Lines. Now how Bodies ſhould have Pores ſufficient for theſe Effects, may be difficult to conceive, but not impoſſible: For Sir *Iſaac Newton* hath ſhewn, that the Colours of all Bodies ariſe from their Particles being of ſuch a determinate Size or Magnitude. Wherefore if we conceive thoſe Particles to be ſo diſpoſed as that there is as much Poroſity as there is Quantity of Matter; and in like Manner thoſe Particles to be compoſed of others much leſs, and that theſe have as much interſperſed Vacuity or Space as their Quantity of Matter amounts to; and ſo on till we come to ſolid Particles without Pores: Then if in any Body there be 3 (for Inſtance) of theſe Sizes of Particles, and that the laſt be of the Solid, or leaſt Sort, that Body will have 7 times as much Vacuity as ſolid Matter: If 4 ſuch Degrees, and the laſt be leaſt and ſolid, that Body will have 15 times as much Poroſity as Solidity: If 5 ſuch Degrees, it will have 31 times as much Space as Solidity: And if 6 Degrees, then it will have 63 times as much Vacuity as ſolid Matter. And perhaps, in the wonderful Conformation and Fabrick of natural Bodies, there may be other Proportions of Space to Matter to us wholly unknown; whence it is poſſible there may be yet further greater Quantities of interſperſed Vacuity.

Porraceous, is ſaid of many things reſembling a Leek in Colour or Scent; as of the Bile, or what is ſometimes diſcharged by Vomiting or Stool, and appearing of a green Colour.

Porta. The *Vena Portæ* was ſo called by the Antients, becauſe they thought that it brought the Chyle, by its maſeraica Branches from the Inteſtines to the Liver, thro' whoſe Subſtance 'tis ſpread. As it ariſes out of the Liver, it receives two ſmall Veins from the *Veſica Fellis*, called *Cyſticæ Gemellæ*, one from the Stomach called *Gaſtrica Dextra*; then advancing a little to the left, its Trunk divides into two Branches, of which the leaſt, called *Ramus Splenicus*, goes to the left *Hypochondrium*; and the greateſt, called *Meſentericus*, goes to the right. The *Ramus Splenicus*, ſo called, becauſe it carries the Blood from the Spleen, receives two Branches, called *Gaſtrica Minor & Major*, which are ſpread thro' all the Stomach. A Branch of the *Gaſtrica Major* makes the *Coronariæ Stomachicæ* at the upper Orifice of the Stomach. It receives three Branches more, two from the *Omentum* and *Colon*, and the third from the *Pancreas*.

Then the *Splenicus* divides into two Branches; the one ſuperior, the other inferior.

The ſuperior receives the *Vas Breve*, and ſome other Branches which come from the Spleen.

The inferior receives two Branches, *viz.* the *Epiplois Siniſtra*, which is ſpread thro' the Back-part of the *Omentum*, and that Part of the *Colon* which is under the Stomach. The other Branch is the *Gaſtro-Epiplois Siniſtra*, which is alſo ſpread upon the *Omentum*, and upon the Stomach. It makes ſometimes the *Vena Hæmorrhoidalis Interna*. The reſt of this inferior Branch comes from the Subſtance of the Spleen.

The right Branch of the *Porta*, called *Vena Meſenterica*, before it divides receives the *Gaſtro-Epiplois Dextra*, which is ſpread in the *Omentum* and lower Part of the Stomach, as alſo the *Inteſtinalis*, which comes from the *Duodenum* and the *Jejunum*; it receives ſome Branches from the *Omentum* and *Pancreas*.

Then the *Meſenterica* divides into three great Branches which run betwixt the Duplicature of the *Meſenterium*; two of them come from the right Side, which divide into fourteen Branches, and theſe are again divided into an Infinity of others leſs, which are called *Meſeraicæ*; they creep upon the *Jejunum*, *Ilium*, *Cœcum*, and Part of the *Colon*.

The third and laſt Branch of the *Vena Meſenterica* is ſpread thro' the Middle of the *Meſenterium*, to that Part of the *Colon* which is on the left Side, to the *Rectum*, down to the *Anus*, where it forms the *Hæmorrhoidales Internæ*. See *Jecur*.

Portio Dura. See *Nerve*.

Porus Biliaris, the Gall-Paſſage. See *Jecur*.

Poſitive Levity. See *Levity*.

Poſitive Quantities, are ſuch as are of a real and poſitive Nature, and either have, or are ſuppoſed to have, the affirmative or poſitive Sign + before them, which is always uſed in oppoſition to the negative Quantities, which are defective, and have this Sign — before them.

Poſtulates, or *Demands*, are ſuch eaſy and ſelf-evident Propoſitions, as need no Explanation or Illuſtration to render them more plain; as that a right Line may be drawn from one Point to another, &c. which are often aſſumed for Diſpatch in common Demonſtrations.

Potential Cold, is a relative Quality, ſignifying that ſuch a Thing is not cold to the Touch, but in its Effects and Operation, if taken inwardly. And this is ſuppoſed to ariſe from the Size, Shape, &c. of its component Particles, which give ſome Check or Retardation to the Blood's Motion, whereby it is leſs agitated, and upon which the ſenſible Parts of the Body are not ſo briſkly ſtruck by it: The Perception of which Imminution, or Change of Motion in the Organs of Feeling, is called Cold. Hence every Thing that leſſens the Motion of the Blood, with relation to the Senſation before made, is cold, and every Thing which encreaſes it may be called

Potential Heat. See above.

Potion, is a Form of Medicine in a Draught, to be taken at one Time.

Poteſtates, or

Powers, in Pharmacy, are from a Combination or Union of the eſſential Oils with the Spirit of any Plant, wherein it is ſuppoſed are contained all its principal Virtues, on which account it has this Name.

Powers, in Algebra, are Numbers ariſing from the Squaring or Multiplication of any Number by itſelf, and then that Product by the Root, or firſt Number again; and the third Product by the Root again, and ſo on *ad infinitum*: as 2 4, 8, 16, 32, &c. where 2 is called the Root, or firſt Power, 4 is the Square or ſecond Power, 8 is the Cube or third Power, 16 the Biquadrate or fourth Power, &c. And theſe Powers, in Letters or Species, are expreſſed by repeating the Root as often as the *Index* of the Power expreſſes; as *a* is the Root or firſt Power, *aa* the Square or ſecond, *aaa* the Cube, and ſo on: Though ſometimes they are thus marked, $a^2 a^3 a^4 a^5$, &c.

Powers, in Mechanicks, are the five Mechanick Powers, which ſee. The Force alſo or Strength, brought for removing any Weight by any Engine, is called the Power. And the Deſign of Mechanicks is to teach Men, how to add ſuch a fitting Supplement to the Power, as that it may move any Weight required, with as much Facility, Cheapneſs, and in as little Room as may be.

Praxis Medica, is that Part of Medicine, which inſtructs us how to diſcover a Diſeaſe, when preſent in the Body, and to order the proper Remedies for its Removal.

Præcipitantia, from *præcipito,* to throw down; theſe are what cauſe

Præcipitation. This is that Proceſs by which Particles, after having floated, and been ſuſpended ſome Time in a *Menſtruum,* do at length ſink to the Bottom. Theſe Particles ſometimes precipitate, of their own accord, but oftener by the Aſſiſtance of ſome other Liquor dropp'd into the *Menſtruum.* The Reaſon of the Deſcent in both Caſes is the ſame.

It may be eaſily conceived, from what has been ſaid in *Digeſtion,* how Fluids may be made to ſuſtain Bodies ſpecifically heavier than themſelves; namely, by making the Reſiſtance, ariſing from the Coheſion of the Parts of the Fluid, equal to the Exceſs, which there is of ſpecifick Gravity, in thoſe Bodies above the *Menſtruum.* And it has been ſhewn, that this Reſiſtance is proportional to the Surface of the Corpuſcles. Therefore, a contrary Condition to this is all that is requiſite, that they may be ſuſtained no longer; or, which is the ſame Thing, that they may be precipitated: Namely, that the Tenacity of the *Menſtruum* be not proportional to the Gravity of the Corpuſcles. And this may be produced two Ways.

In the firſt Place, Precipitation generally follows upon dropping in a Liquor ſpecifically lighter. For, by this Mixture, the Gravity of the *Menſtruum,* which always is proportional to the compound Gravities of both Liquors, becomes lighter. The *Menſtruum* being thus diluted, the Force of Coheſion is alſo weakened, ſo that it is not able to reſiſt, or bear up the Bodies diſſolved in it: Hereupon, the *Æquilibrium* being taken off, they are precipitated by the Force of their Gravity. Juſt in the ſame Manner as *Hydrometers,* which are eaſily ſuſtained in Water, upon pouring in a good deal of any burning Spirits, ſink to the Bottom of the Glaſs. And this does not only agree very exactly with the Laws of Mechanicks, but likewiſe with Experiments themſelves. Thus Spirit of *Sal Armoniac* does very plentifully precipitate the Filings of Metals, which are diſſolved in acid *Menſtruums,* tho' it be abundantly lighter than any of them. The ſame thing is done quicker by Spirit of Wine, whoſe Gravity is known to be almoſt the leaſt of any. By this Spirit alſo all Salts, which are ſuſpended in Water, are precipitated, and ſo unite into Chryſtals. So, if you drop in diſtilled Vinegar the Droſs of Antimony, diffuſed in Water, it falls to the Bottom, and affords the Golden Sulphur. After the ſame Manner Water, Vinegar, *&c.* makes a Precipitation from Acids, tho' more ſparingly. Nay, Acids themſelves being poured upon others, which are heavier, will precipitate whatever is ſwimming in them. Thus, Spirit of Salt precipitates either Lead, Copper or Tin, diſſolved in Oil of Vitriol. So little Need is there for *Alkali*'s in this Buſineſs, tho' all the Chymiſts have unanimouſly contended for them, as abſolutely neceſſary.

In the ſecond Place, Precipitation will ſucceed as well, if there be added a heavier Liquor to the *Menſtruum.* For the Particles of this Liquor, what with their Weight, and what with the *Impetus* they acquire in their Deſcent, carry down and ſink all the ſolid Corpuſcles they meet with in their Way. So that the Corpuſcles being thus forced down, and kept there by this adventitious Liquor, cannot mount up into their former Situation. And if any one has a Mind to try the Truth of this Reaſoning by Experiments, there are enough to confirm it: For not only acid Spirits, but Water alone, will precipitate Tinctures of Vegetables extracted by Spirit of Wine. And the very ſame Tinctures, extracted with Water or Wine, are precipitated very copiouſly by acid Spirits, which are heavier. After this Manner Metals, which are diſſolv'd in Spirit of *Sal Armoniac,* are precipitated wih Oil of Vitriol, or Spirit of Nitre. The ſame Bodies, tho' ſuſpended in *Aqua fortis,* are eaſily precipitated with Oil of Vitriol, or Bezoartick Spirit of Nitre. And this very Oil, if poured upon *Sal Volatile Oleoſum,* or any other Solution of Salt, ever ſo much ſaturated, does not only ſink the ſmaller Particles, but converts almoſt the whole Liquor into Salts. For when theſe Liquors are poured upon one another, the Salts, with which they abound, being put into Motion by their attractive Force, run mutually to embrace one another; and, becauſe they don't recoil far back after the Congreſs, they are at length ſo united, as to become like a Solid, there being very little Phlegm remaining. The ſame may likewiſe be obſerved in *Tartarum Vitriolatum.* In making all theſe Experiments, there happens ſuch a Conflict and Effervеſcence, as evaporates almoſt all the Moiſture, with which the Salts are diluted. And upon this depends the *Rationale* of Chymical Coagulation, a Thing of very great Conſequence in the Buſineſs of Precipitation. Nor can we account for Oil of Tartar's precipitating Bodies diſſolved in Acids, any otherwiſe than from its making a Kind of *Coagulum* with theſe Corpuſcles, and thereby being too heavy for, and exceeding the Tenacity of the *Menſtruum*.

Nor does Coagulation ſucceed only upon mixing of heavier Fluids, but it alſo very often promotes Precipitation, when the Gravity of the inſtilled Liquor is intirely equal to that of the *Menſtruum*, or but very little different from it. And this Agglutination of Parts is to be ſeen in many Liquors, but moſt of all in ſaline ones. Thus Spirit of *Sal Armoniac*, Spirit of Hartshorn, and human Blood, *Sal Volatile Oleoſum*, whoſe Gravities are nearly the ſame as that of common Water, precipitate the Solution of Sublimate very plentifully, as you may obſerve in making the white Precipitate of Mercury. In which Experiment, the Increaſe of the Weight gives a ſufficient Indication of an Union of thoſe Salts, which are pretty copious in the Sublimate, and Liquors which are poured upon it: For that, which ſubſides at the Bottom, exceeds in Weight the Sublimate which was at firſt put in. Likewiſe the Magiſteries of Vegetables, extracted by Precipitation, do confirm this Account of Coagulation; for theſe have a greater ſpecifick Gravity than the Powders of the Plants. This additional Weight, therefore, is to be imputed to the Particles of the Liquors, with which Precipitation is performed.

Præcordia, from *præ*, before, and καρδία, *Cor*, the Heart: the Fore-part of the Region of the *Thorax* is thus called.

Præcurſores, Fore-runners, is by *Paracelſus*, and ſome of his Followers, uſed for the antecedent Sign of a Diſeaſe.

Prediction, foretelling the future Events of a Diſeaſe.

Pregnant, is when the Female of any Species goes with Young.

Præparantia Vaſa. See *Generation Parts of, proper to Men.*

Præputium, the Fore-skin. See *Generation Parts of, proper to Men.*

Præſtigiæ, were certain magical Inchantments, or Tricks, wherewith ſome pretended to drive away Diſeaſes; but ſuch Practice hath been deteſted by all rational Phyſicians.

Præt. Nat. and *P. Na.* are ſometimes put for preternatural.

Presbytæ, from ϖρέσβυς, *ſenex*, old, is a Diſtemper of the Eyes which old People are moſt ſubject to, wherein the Globe of the Eye falls ſo flat, that the viſual Rays paſs the *Retina* before they unite; whereby there can be no diſtinct Viſion, ſince the diſtinct Baſe falls too far off beyond the *Retina*. This Defect is, therefore, to be helped only with convex Glaſſes or Spectacles, which will make the Rays converge ſooner, and if they are well fitted, exactly on the *Retina*.

Priapiſmus, the ſame as *Tentigo*, is continued painful Erection of the Yard; from

Priapus, which ſometimes is put for the human *Penis*.

Primæ Viæ, firſt Paſſages; are the Stomach, Inteſtines, and their Appendices.

Principia, Principles or Elements. It is plain, that the common Matter of all mixed Bodies is the ſame; and that the Matter which compoſes one Body, in no reſpect differs from that which compoſes another, but in Figures and Bulks, and what from thence ariſes: And therefore in the moſt ſtrict Senſe there can be but one univerſal Principle, *viz.* Matter.

But as compounded Bodies, under the Management of Pharmacy, appear reſolvable into Parts ſeemingly homogeneous and ſimple; thoſe Parts have been contended for as true Principles. They are term'd, 1. Spirit, or Mercury. 2. Sulphur, or Oil. 3. Salt. 4. Water, or Phlegm. And, 5. Earth.

The firſt three, by ſome chymical Writers, are termed active Principles, and the two laſt paſſive; but with how much Impropriety, any one will ſee, who conſiders the foregoing, and has any tolerable Idea of Matter in general. For there can be no Principle of Action therein, but a *mutual Inclination of Bodies towards one another*; and that as *it is in proportion to the Quantity of Matter in all Bodies*, let them exiſt under what Modifications ſoever, there can be no Alteration made of this univerſal Property. And therefore any Dviſion of Matter into what, for diſtinction-ſake from any other Diviſions, may be called Spirit, does not give it any Properties inconſiſtent with this general Law; and conſequently ſuch Diſtinction is not only chimerical, but abſurd: Notwithſtanding it has occaſion'd many pretty Amuſements from Perſons of a fitter Talent for ſpeaking than thinking. But we ſhall be better ſet right in this Matter, by taking a View of theſe five Subdiviſions, and examining how far it may be of Uſe to conſider them as Principles.

By Spirit is underſtood the moſt fine and ſubtile Parts of Bodies, which is diſcoverable by its Volatility and Quickneſs to the Smell and Taſte, and in Diſtillation riſes firſt. Now if this be ſaid to be an active Part of Matter, with regard to its Facility of Motion, in Compariſon to groſſer and more bulky Parts; it conveys ſomewhat intelligible. But the ſeveral Parts of a ſpirituous Body, conſidered in themſelves, have no more a Power of Motion or Action, than as they are, in common with all other Bodies, under the Influence of the Laws of Attraction. By the Lightneſs of this Sortment of Matter, which for manifeſt Reaſons ſubjects it to riſe and be uppermoſt where it can get looſe, it is, that thoſe Subſtances wherein it moſt abounds, are moſt liable to inteſtine Motion: and, if it makes its eſcape, leaves them in that State we call Corruption. This often happens in animal and vegetable Subſtances; but Minerals have ſo very little of it in their Compoſition, that they are not by much ſo ſubject to change.

What paſſes under this Name in *Pharmacy*, cannot with any Strictneſs be deemed a Principle, both as it is of different Kinds, as the Bodies from which it is produced differ; and as it is in neither to be drawn entirely uncompounded. There are three very different ſorts under this Denomination; the firſt is the Spirit of Animals, as what is procured from Hartshorn. This ſeems to be Salts, moſt capable of Exaltation, wrapped up in a ſmall Portion of Phlegm. The ſecond is the inflammable Spirit of Vegetables, and what is procured by the Help of Fermentation. This ſeems in a great meaſure to be a very ſubtile Oil, blended with a ſmall Portion of volatile Salts. The laſt is what is forced from Vinegar, Vitriol, and ſuch like acid Subſtances;

which

which ſeems to be nothing elſe but very acid pungent Salts, put in Fuſion by Fire, and ſet floating in a ſmall Quantity of Phlegm.

Sulphur or Oil is very ſoft and unctuous, and the lighteſt Part of Bodies next to Spirit. From the different Proportions and Modifications of this, it is ſaid, compound Bodies receive their different Smells and Colours; and that, by its Tenacity, it is a Kind of Glue or Cement to the other Principles: whereby in thoſe Vegetables, wherein it moſt abounds, we find it preſerves them without much Change thro' all the Seaſons of the Year. It is very hard to affirm a Poſſibility of procuring this without a Mixture of other Sortments: For in the lighter Oils of Vegetables, as Roſemary, Lavender, and the like, they appear to have a Mixture of Spirit, or volatile Salt, by their Pungency; and in others drawn from Woods, as Guaiacum, Cinnamon, *&c.* they ſeem to bring over with them Salts of a groſſer and more ſolid Nature, which makes them ſpecifically heavier than Water.

Under the Denomination of Salt is to be underſtood moſt of that which gives Solidity to Bodies, is diſſolvable in Water, and affects the Taſte with a peculiar Pungency. But there are three diſtinct Sorts which paſs under this Name in Medicine; the fixed, the volatile, and the eſſential: The fixed is what remains after Calcination, which is procured by diſſolving the ſaline Parts of Aſhes in hot Water, and evaporating it until the Salt is left dry at the Bottom; for that will not riſe in Vapour. This is called in the Shops a lixivious Salt; and, it is feared, is more owing to the Fire for its Qualities, than the Plant 'tis produced from: And therefore in the Room of all of this Kind, which are in the Shops titled the Salts of ſuch peculiar Plants, ſome with very good Reaſon ſubſtitute Salt of Tartar. But this will be better underſtood, by turning back to what is explained under the Term *Calcination.* The Volatile is what eaſily paſſes over the Helm; as the Salt of Animals. The Eſſential Salt is that which is obtain'd by Cryſtalization from the Juices of Plants; and this is of a Nature between the other two, and may moſt properly be termed eſſential, having no Force uſed in its Production.

If there be in a ſtrict Senſe any ſuch thing as a *Principle,* Salt is ſo; but then it muſt be that which is termed foſſile Salt, or *Sal Gemmæ:* For this not only appears to be the plain Production of Nature, but to be the moſt homogeneous and uncompounded Part, Matter can be divided into. As for the Differences taken notice of between thoſe which paſs under the ſame Denomination, they may be owing to the different Contextures of thoſe Bodies, into whoſe Compoſition they are wrought up, whether Vegetable or Animal.

For the firſt Appearance of this is in Springs and Rivers, into which it is waſhed by ſubterraneous Currents; thence by the Sun it is in ſome meaſure exhaled in Vapour, from whence it returns again in Snow, Hail, and Dews: for common Rain-Water does not ſeem to partake of it, or in very ſmall Quantities, for Reaſons obvious to the Searchers into ſuch Cauſes, and too long to be explained here. From this Return, the Surface of the Globe is ſaturated with it, whence it reaſcends in the Juices of Vegetables; and enters into all thoſe Productions, as Food and Nouriſhment, which the Creation ſupplies.

Now in the little Alteration this receives by its Entry into the Juices of moſt Plants, it is again capable of ſhooting into Cryſtal, not greatly unlike its primitive Form; but by the manifold Comminutions and Elaborations it undergoes in an Animal Body, it is ſo very far broke and divided, as to paſs for a Volatile, and bear very little Reſemblance to what it was in its Origin. And that what undergoes this mighty Alteration can never be reduced into its original Form, may be much owing to the ſulphureous Particles which it wraps itſelf in, in its Paſſages thro' Animal Subſtances particularly: Which likewiſe again confirms our former Conjecture, that what paſſes for Spirit as a Principle, is no other than a highly ſubtilized Salt, with ſome Mixture of an exalted Sulphur.

This Diviſion of Matter does moſt abound with the Force of Attraction, by the Solidity of its Particles; and therefore in Bodies where there is much of it, as there is in many Minerals, they are prodigiouſly hard and compact, and almoſt incapable of Decay or Alteration by Time.

Phlegm or Water, is the common Vehicle or Diluter of all ſolid Bodies; and in Proportion to its Quantity in any Mixture, are the other more languid, or diſabled in their attractive Influences. It is much to be queſtioned whether this can be drawn by Diſtillation without ſome Mixture; that which has the leaſt, muſt come neareſt to the Nature of a Principle; and upon that account Rain Water is like to afford it moſt. In ſome Minerals, where there are none of the lighter Sortments, this comes over the Helm firſt; as likewiſe from inodorous Vegetables.

Earth, and as ſome call it, *Caput Mortuum*, is that Part of a Body which is left laſt in the Furnace, and is capable neither of being raiſed by Diſtillation, nor diſſolved by Solution.

Probe, from *probo*, to try; is a Surgeon's Inſtrument to ſearch Wounds and Cavities.

Problem, is a Propoſition which relates to Practice, or which propoſeth ſomething to be done; as to make a Circle paſs thro' three given Points not lying in a right Line.

Proboſcis, a Snout; this is moſt ſtrictly apply'd to the Trunk of an Elephant, but is uſed alſo for the ſame Part in every Creature that bears any Reſemblance thereunto.

Procatarctick, and

Procatarxis, from *προκατάρκω*, *antegredior*, to go before; is the pre-exiſtent Cauſe of a Diſeaſe, which co-operates with others that are ſubſequent, whether internal or external; as Anger, or Heat of Climate, which bring ſuch an ill Diſpoſition of the Juices as occaſion a Fever: The ill Diſpoſition being the immediate Cauſe, and the bad Air the *Procatarctick* Cauſe.

Proceſſus, from *procedo*, to go out, are ſeveral Protuberances or Prominences of the Bones and other Parts of the Body, diſtinguiſhed according to the Parts they are in: As

Proceſſus Peritonæi, and

Proceſſus Vermiformis, *&c.* which ſee under their reſpective Names, as alſo *Apophyſis*.

Production, the ſame as *Proceſſus*.

Procidentia Ani, the falling down of the *Anus*, is from a Relaxation of the *Sphincter* of the *Rectum*, called *Sphincter Ani*; it is cured by Aſtringents.

Procidentia Uteri, the Falling down of the Womb, is from a Relaxation of the Ligaments which hold it in its Place; its Cure is alſo in aſtringent Baths.

Procreation, is every Species begetting or propagating its own Likeneſs by Generation.

Prodromus, is uſed in various Senſes, but chiefly by Phyſicians for any one Diſtemper that is often the Forerunner of another, as a Vertigo is frequently the Prodromus of an Apoplexy.

Progerminus, is applied by *M. A. Severinus* to ſuch Abſceſſes, as ariſe rather from a Redundancy of Humours, than putrid Matter, as Muſhrooms ſpring out of the Earth.

Projection, is a Term uſed by the Chymiſts for ſuch a Change as Fermentation makes in Bodies, that is brought about inſtantaneouſly, and chiefly takes place in the Proceſs for making the Philoſophers Stone; if they are to be regarded.

Proegumena, the ſame as *Procatarctica*, ſee *Procarctic*.

Profluvium, a flowing, is any Kind of Flux, ot Liquid Evacuation. Whence,

Profluvium Ventris, a Flux of the Belly, is a *Diarrhœa*, or a Dyſentery.

Profundus Muſculus, the ſame as *Perforans*, which ſee.

Prognoſis, and

Prognoſtica Signa, are Signs by which we know the Event of a Diſeaſe, whether it ſhall end in Life or Death, or be long or ſhort, *&c.*

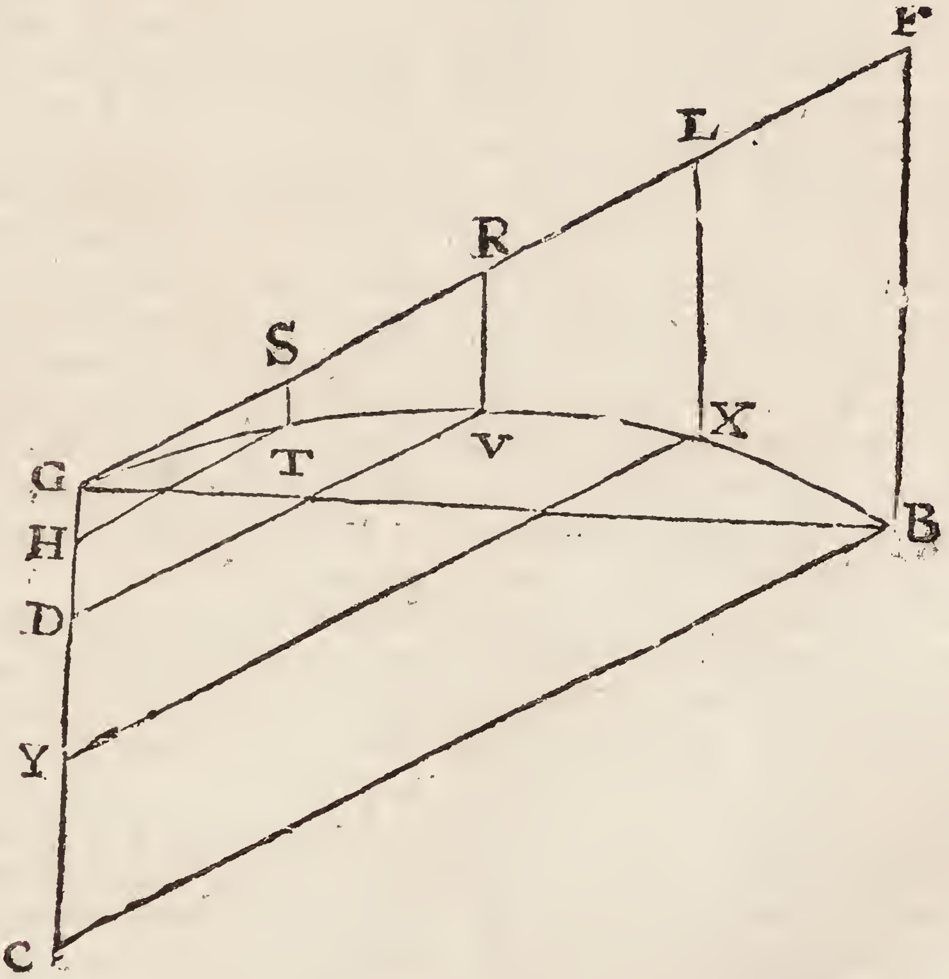
Projectiles, are ſuch Bodies as being put into a violent Motion by any great Force, are then caſt off or let go from the Place where they received their Quantity of Motion, and do afterwards move at a diſtance from it; as a Stone thrown out of one's Hand, or by a Sling, an Arrow from a Bow, a Bullet from a Gun, *&c.*

There hath been a great Diſpute about the Cauſe of the Continuation of the Motion of Projectiles, or what it is that makes them move after they part from the Sorce that began the Motion. The *Peripateticks* will needs have it, that the Air being by the Motion of the Hand of the Slinger, *&c.* put into a moſt violent Agitation, and forced rapidly to follow the Motion of the Stone, while it is accelerated in the Hand of the Slinger, doth, to prevent a *Vacuum*, preſs with all due Velocity after the Stone when it parts from the Hand, and thruſts it forwards as long as it can. But this Account ſeems very unconceivable; and there needs nothing more to ſolve the Motion of projected Bodies, but only to conſider, that all Bodies being in different to Motion or Reſt, will neceſſarily continue the State which they are put into, unleſs they are forced to change it by ſome other Force impreſſed upon them. Thus if a Body be at Reſt, ſo it will eternally abide, if nothing move it; or if it be in Motion, ſo it will enternally move uniformly on in the ſame right Line, if nothing ſtop it. Wherefore when a Stone is put into any Degree of Motion, by the Rotation of the Arm of the Man that flings it, whatever Degree of Velocity it had acquired when it parted from the Hand, the ſame would it ever after keep if it moved *in Vacuo* and had no Gravity: But becauſe it hath a Tendency, as all Bodies (by the Law of Nature) have, towards the Centre of the Earth, and is alſo reſiſted by the Air all along as it goes, in proportion to its Velocity, it plainly follows, that it muſt needs be both continually drawn downwards, and alſo continually retarded in its progreſſive Motion forwards, and conſequently at laſt fall down to the Earth, and ſtop.

The Line of Motion which a Body projected deſcribes in the Air, (abſtracting from the Reſiſtance of the Medium) is, as hath been proved by *Galilæus*, and many others, and particularly, by our Sir *Iſaac Newton*, *Prop.* 4. *Cor.* 1. of his ſecond Book, the Curve of a Parabola: which Line is alſo deſcrib'd by every deſcending Body.

He ſhews alſo, That if the Line of Direction of the projectile Motion of any Body, the Degree of its Velocity, and, at the Beginning, the Reſiſtance of the Medium be given, the Curve, which it will deſcribe, may be diſcover'd, and *vice verſa*. He ſaith alſo in *Schol. Prop. X. Lib.* 2. That the Line which a Projectile deſcribes in a Medium uniformly reſiſting the Motion, rather approaches to an Hyperbola than a Parabola.

The learned Dr. *Halley* proves all Projectiles to deſcribe a *Parabola* thus:



Let the Line *G R F* be the Line in which the Project is directed, and in which, by the firſt *Axiom*, under the Word *Deſcent*, it would move equal Spaces in equal Times, were it not deflected downwards by the Force of Gravity. Let *G B* be the horizontal Line, and *G C* a Perpendicular thereto. Then the Line *G R F* being divided into equal Parts, anſwering to equal Spaces of Time, let the Deſcents of the Project be laid down in Lines parallel to *G C*, proportion'd as the Squares of the Lines, *G S*, *G R*, *G L*, *G F*, or as the Squares of the Times, *i. e.*

let them be drawn from S to T, from R to U, from L to X, and from F to B, and draw the Lines TH, VD, XY, BC, parallel to GF; I ſay, the Points T, V, X, B, are Points in the Curve deſcrib'd by the Projectile, and that the Curve is a Parabola.

That the Points are in the Curve, is evident by *Axiom* 2. under the Word *Deſcent of heavy Bodies*: and the Parts of the Deſcent GX, GD, GY, $GC = ST$, RV, LX, FB, being as the Squares of the Times, (by *Prop.* 2. under the Word *Deſcent*) that is, as the Square of the *Ordinates* HT, DV, YX, $BC = GS$, GR, GL, GF, the Spaces meaſur'd in thoſe Times, and there being no other Curve but the Parabola, whoſe Parts of the Diameter are as the Squares of the *Ordinates*, it follows, that the Curve deſcrib'd by a Projectile can be no other than a Parabola: and ſaying, as RV the Deſcent in any Time, is to RG or VD the direct Motion in the ſame Time; ſo is VD to a third Proportional, or the Parameter of the Parabola to the Diameter GC, which is always the ſame in Projects caſt with the ſame Velocity: and the Velocity being defin'd by the Number of Feet mov'd in a Second of Time, the Parameter will be found by dividing the Square of the Velocity by 16 Feet 1 Inch, the Fall of a Body in the ſame Time.

Pronatores Muſculi, are two in Number; the firſt,

Pronator Radii Quadratus, is a Muſcle of the *Radius*, which ariſeth broad and fleſhy from the lower and inner Part of the *Ulna*; and paſſing tranſverſely over the Ligament that joins the *Radius* to the *Ulna*, is ſo inſerted into the ſuperior and external Part of the *Radius*: which it helps to pull inwardly, with the

Pronator Radii Teres, which is a Muſcle, ſome call alſo *Pronator ſuperior Rotundus*, and ariſeth fleſhy from the internal Extuberance of the *Os Humeri*, where thoſe bending the *Carpus* and Fingers do ariſe; and firmly adhering to the *Flexor Carpi Radialis*, it deſcends obliquely downwards to its fleſhy Inſertion a little above the *Radius*, in the Middle, externally: Its Uſe is to move the *Radius* inwards.

Propagation, the ſame as Procreation, which ſee; it is alſo us'd by the Alchymiſts, for the Increaſe or Growth of Metals, as *Libavius* informs us.

Prophylatica, is that Part of Medicine which prevents the Attack of Diſeaſes, from προφυλάσσω, *præſervo*, to preſerve.

Propoſition, is any Thing propos'd to be prov'd; and in Mathematicks or Phyſicks, is generally call'd, either *Theorem* or *Problem*.

Proſtatæ. See *Generation Parts of, proper to Men.*

Protractor, is an Inſtrument us'd by Surgeons, to draw out any foreign or diſagreeable Bodies from a Wound or Ulcer, in the Manner as the *Forceps*.

Protuberance, any Elongation, or Extenſion of a Part whether natural or not, as the *Apophyſes* of the Bones, and the like.

Pruniferous, are ſuch Trees or Shrubs, whoſe Fruit is pretty large and ſoft, with a Stone in the Middle; in which Kind the Flower adheres to the Bottom of the Baſe of the Fruit.

Prurigo, and

Pruritus, the Itch, or any Dryneſs and Roughneſs of the Skin, caus'd by ſharp Humours, which ſtagnate in, and corrode the miliary Glands.

Pſeudos, ψευδὸς, falſe or ſpurious, is therefore compounded with many Words in that Senſe, as

Pſeudo-medicus, one who pretends to be a Phyſician, who is not really ſo; and ſo of many other Things.

Pſilothron, is an external Form of Remedy, us'd to take away Hair from the Body; ſignifying the ſame with *Depilatory*, which ſee.

Pſoas, is a Muſcle, that ariſeth from the internal Side of the tranſverſe Proceſſes of the *Vertebræ* of the Loins, within the *Abdomen*; and deſcending upon Part of the internal Side of the *Ilium*, it is inſerted into the lower Part of the little *Trochanter*.

Pſoas parvus, ariſes fleſhy from the Inſide of the upper *Vertebræ* of the Loins, and it hath a thin and broad Tendon, which embraces the *Pſoas* of the Thigh, and which is inſerted into the *Os Innominatum*, where the *Os Pubis* and *Ilium* join together.

Pſora, a Scab, or Tetter. Whence

Pſorica, are Medicines good againſt Scabs, and cutaneous Eruptions.

Pſorophthalmia, is a ſcurfy Eruption upon the Eye-brows.

Pſychagogica, ſo *Schneider* calls thoſe Medicines which ſuddenly raiſe the Spirits, in Faintings, and the like, as

Pſychologia, ψυχολογία, is any Treatiſe of the Soul, as that of *Willis de Anima Brutorum*; from ψυχὴ, *Anima*, the Soul.

Pſychroluſia, or *Pſychrolutron*, ψυχρολυσία, is the cold Bath; or waſhing in cold Water; much us'd by the Antients, to reſtore the Tone of the Parts, after warm bathing, and to give a Firmneſs to the Body.

Pſydracium, is a pointed white Puſtule, or Tumor upon the Skin, containing a ſerous Humour.

Ptarmos, πταρμὸς, Sneezing; whence.

Ptarmica, are the ſame as *Sternutatories*, Medicines which excite Sneezing.

Pterygium, from πτέρον, *Ala*, a Wing, is apply'd to ſeveral Parts of the Body which have any Reſemblance to Wings; as the *Pterygoides*, which are deſcrib'd under *Aliformes Muſculi*, which ſee. It is alſo a Term given, by ſome Surgeons, to an Excreſcence of Fleſh round the Fingers, or Toes, as is often occaſion'd by Whitloes.

Pterygoid Proceſs. See *Maxilla ſuperior*.

Pterygoidei Muſculi, from πτέρον, *Ala*, a Wing, and εἶδος, *Forma*, Shape. There are two of theſe; the one internal, which ariſes from the internal Part of the *Pterygoid Proceſs*, and deſcends to be inſerted into the inferior Part of the internal Side of the lower Jaw, near its Angle; when it acteth, it draweth the Jaw to one Side; and the other external, which ariſeth from the external Part of the ſame Proceſs, and goes backwards to be inſerted between the *Condyloid Proceſs* and the *Corone* on the Inſide of the lower Jaw. This pulleth the lower Jaw forwards.

Pteriſtaphilini, from πτέρον, *Ala*, a Wing, and ςαφυλὴ, *Uvula*; are two Muſcles, the one external, which ariſes fleſhy from a ſmall Protuberance upon the Under-ſide of the Body of the *Os Sphenoides*, and goes directly to be inſerted into the Hinder-part of the *Uvula*: and the internal, which ariſes from the ſame Protuberance of the *Os*

Sphenoides; and growing into a ſmall round Tendon, which paſſes over a ſmall Proceſs, like a Hook, of the *Proceſſus Pterygoideus*, from thence reverting, it is inſerted into Part of the *Uvula*. When the firſt of theſe acteth, it pulleth the *Uvula* backwards; when the ſecond contracteth, it pulleth it forwards, becauſe of the Pully through which its Tendon paſſes, which alters the Direction of its Motion; both which are neceſſary for the Articulation of the Voice, and in Deglutition, that nothing may regurgitate into the Noſe which is taken in by the Mouth. Theſe Muſcles are, by ſome, call'd, the *Sphenopalatinus* and *Sphenopharyngæus*, from σφὴν, *Cuneus*, a Wedge, and φάρυγξ, *OEſophagus*, becauſe it ſtops the Aperture of the Gullet like a Wedge; and *Pterygopalatinus*, or *Sphenopterygopalatinus*, from its Wing-like Reſemblance upon the Palate.

Ptiſan, a thin Drink, Decoction, or Julep.

Ptyaliſm,

Ptyalon,

Ptyſma, and

Ptyſmagogue, are all from πτύω, *ſpuo*, to ouze out, as Spittle does out of the Glands; and therefore, expreſs every ſuch Diſcharge, whether it amounts quite to a Salivation, or not.

Pubes, is the external Parts of the *Pudenda*, or Parts of Generation in both Sexes, and which, in adult Perſons, is cover'd, more or leſs, with Hair.

Pudenda. See *Parts of Generation proper to Women, or Men.*

Pubis Os. See *Oſſa Innominata*,

Puerpera, ſtrictly ſignifies a Woman juſt after Delivery, or in Childbed; though ſome uſe it for them while pregnant.

Pugil, is the eighth Part of an Handful.

Pulmonalis Arteria. See *Artery*.

Pulmonalis Vena. See *Veins*.

Pulmo, the Lungs. See *Lungs*.

Pulmonary Veſſels, are all thoſe Veſſels which paſs through the Lungs.

Pulpa, Pulp, is the ſoft Part of Fruit, Roots, or other Bodies, which is extracted by Infuſion, or Boiling, and is paſſed through a Sieve.

Pulſation, and

Pulſe. Beſides what has been ſaid under *Artery*, (which ſee) it is neceſſary to be acquainted with the Differences of Pulſes. An *high* Pulſe is either vehement or ſtrong; but if the Dilatation of the Artery does not riſe to its uſual Height, it is call'd a *low* or *weak* Pulſe; but, if between its Dilatations there paſſes more Time than is wont, it is call'd a *ſlow* Pulſe; but if leſs Time, it is call'd a *quick* Pulſe. Again, if the Coats of an Artery feel harder than uſual from any Cauſe whatſoever, it is call'd an *hard* Pulſe; but if, by any contrary Cauſe they are ſofter, then it is call'd a *ſoft* Pulſe: ſo that there are, of Uſe to be known, three different Kinds of Pulſes, to wit, an *high* and a *low* Pulſe, a *quick* and a *ſlow* Pulſe, and a *hard* and a *ſoft* Pulſe. If there are ſuch as a *ſwift* and an *heavy* Pulſe, yet they are not diſtinguiſhable enough to be of any Moment to a Phyſician: for a Pulſe is *ſwift*, when an Artery continues in its Height of Dilatation a leſs Time than uſual, and *heavy*, when a greater Time; but that Difference is imperceptible to the Finger. For there are 3600 Pulſes in a Man of moderate Health within the Compaſs of an Hour, ſince every Pulſe anſwers to the Second of a Minute, and ſome Part of that Second muſt be allotted for the Space of Time the Sides of an Artery take before they come to their utmoſt Dilatation, and another Part for that Space in which they fall back to their natural Capacities; all which muſt be within the Second of a Minute, or the 3600th Part of an Hour. From whence it is plain, that ſuch a Part of a Second of Time as is allotted for the Duration of the utmoſt Dilatation, muſt be ſo ſmall, that we cannot, by the Touch of our Fingers, diſtinguiſh any to be leſſer. Then an unequal and intermitting Pulſe are only Species of a *quick* and a *ſlow* Pulſe: for if the Quickneſs or Slowneſs is always uniform to itſelf, it is an equal Pulſe; but, if it be not uniform to itſelf, then it is unequal and intermitting.

Pulſion, is the driving or impelling any Thing forward; from *pello*, to drive. See *Attraction* and *Electricity*.

Pulverization, from *Pulvis*, Pouder; is the reducing any Thing to Pouder.

Punctum Lachrymale. See *Caruncula Lachrymales*.

Punctum Saliens, the Leaping-point: that Speck in the Egg, which is call'd the *Treddle*, and is obſerv'd firſt to have Motion in the Formation of the Chick, is thus called.

Puncture, from *pungo*, to prick, is any Wound made by a pointed Inſtrument.

Pupilla, the Pupil. See *Eye*.

Purgantia, Purgatives; and

Purgation, from *purgo*, to cleanſe, or purge. See *Catharcticks*.

Purification, the ſame as Depuration; the making any Thing fine, or clearing it from Droſs, or Fæces.

Purpurea Febris, Purple Fever; is a Fever with an inflamed Skin, particularly in the Face; and is moſt common amongſt Children.

Purulent; what is turned into Matter, as in the Suppuration of a Tumor; as,

Pus, ſignifies Snot, or any Thing ſuppurated into Matter.

Puſtulæ, Puſtules: the Eruptions in the Small-pox, or any Thing of that Kind, are thus called.

Putrefaction, from *Putris*, or *Putredo*, Rottenneſs, and *facio*, to make; is any Kind of Fermentation, or inteſtine Motion of Bodies, as tends to the Deſtruction of that Form of their Exiſtence, which is ſaid to be their natural State.

Putrid Fever, is that Kind of Fever, where the Humors, or Part of them have ſo little circulatory Motion, that they fall into an inteſtine one, and putrefy; as is commonly the Caſe after great Evacuations, great or exceſſive Heat, where there is ſuch a Scarcity of Spirits, that the Solids do not ſufficiently vibrate: and in theſe Caſes the Pulſe is low, and the Fleſh cooler than naturally at firſt.

Pylorus, from *πύλη*, *Janua*, a Gate, and *ὠρέω*, *cuſtodio*, to keep, is that narrow Part of the Stomach that opens into the Inteſtines. See *Stomach*.

Pyramidales Muſculi, are a Pair of Muſcles belonging to the *Abdomen*, ſo called, from their Reſemblance to a Pyramid in Figure: they riſe with a fleſhy Beginning from the outer and upper Part of the *Os Pubis*, and growing narrower and narrower, are inſerted in the *Linea Alba*, ſometimes near the Navel. Sometimes one, and ſometimes both theſe Muſcles are wanting.

Pyramidalia Corpora. See *Corpora Pyramidalia*. Some other Parts of the Body likewiſe frequently have this Name given them, on Account of their Figure.

Pyrenoides Proceſſus, is a Proceſs of the ſecond *Vertebra*, thus call'd, from its Shape, as alſo, for the ſame Reaſon *Dentiformis*, Tooth-like Proceſs.

Pyroenus, from πῦρ, *Ignis*, Fire, and οἶνος, *Vinum*, Wine, is *Rectify'd Spirit of Wine*; thus call'd, becauſe it is made by Fire, or rather render'd of a fiery Nature, ſo as to be totally inflammable.

Pyretica, Pyreticks, from πῦρ, *Ignis*, Fire, or Heat, are ſuch Medicines, as are good againſt Fevers; and

Pyretologia, from the ſame Derivation as the foregoing, and λέγω, *narro*, to deſcribe, is a Diſcourſe upon, or Deſcription of Fevers.

Pyriformis Muſculus, is a Muſcle of the Thigh, which receives its Name from its Figure; it is alſo called *Iliacus Externus*, from its Situation: Its Beginning is round and fleſhy from the inferior and internal Part of the *Os Sacrum*, where it reſpects the *Pelvis* of the *Abdomen*, and deſcending obliquely in the great *Sinus* of the *Os Ilium*, above the acute Proceſs of the *Iſchium*, and joining with the *Glutæus Medius*, it's inſerted, by a round Tendon, to the ſuperior Part of the Root of the great *Trochanter*. This moves the *Os Femoris* ſomewhat upwards, and turns it outward.

Pyrotechny, from πῦρ, *Ignis*, Fire, and τέχνη, *Ars*, Art; is the Art of Chymiſtry, becauſe Fire is the chief Inſtrument the Chymiſts make uſe of. Some alſo have us'd it to ſignify the Art of Fire-works.

Pyroticks, are Medicines that are actually or potentially hot, ſuch as will burn the Fleſh, and raiſe an *Eſchar*, from πῦρ, *Ignis*, Fire.

Pyxis, is properly a Box; and, from its Reſemblance thereunto, the Cavity of the Hip-bone, or *Acetabulum*, is alſo ſometimes call'd *Os Pyxidis*.

Q.

Q. Pl. Quantum placet, as much as you pleaſe of any thing.

Q. V. Quantum vis, as much as you will.

Q. S. Quantum ſufficit, as much as ſufficeth.

Quadratus, four-ſquare; this Name is given to many Muſcles, on Account of their Shape; as,

Quadratus Maxillæ inferioris, is a broad membranous Muſcle, which lies immediately under the Skin; it ariſeth from the upper Part of the *Sternum*, from the *Claviculæ*, and from the *Acromium*: It covereth all the Neck, and adheres firmly to the lower Edge of the lower Jaw, and being produced, it covers alſo the lower Part of the Cheeks. When it acteth, it pulls the Jaw downwards.

Quadratus Labii inferioris, is the ſame as *Depreſſor Labii inferioris*; which ſee.

Quadratus Lumborum, ariſeth from the poſterior Part of the Spine of the *Ilium*, and is inſerted into the Inſide of all the tranſverſe Proceſſes of the *Vertebræ* of the Loins. This Muſcle moveth the Body upon the Loins to one Side, and both together help the *Rectus Abdominis* in bending the Body forward.

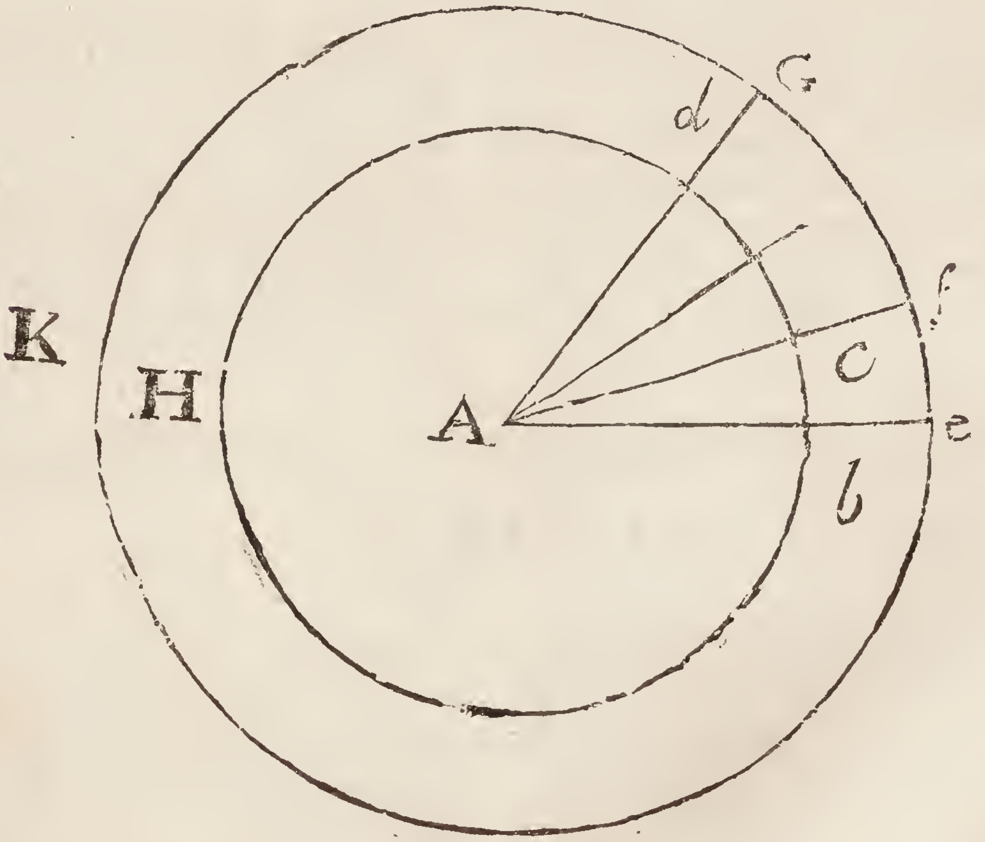
Quadratus Radii, ariſes by a broad and fleſhy Beginning, from the lower and internal Part of the *Ulna*; it paſſeth over the Ligament that joins the *Radius* to the *Ulna*, and is inſerted as broad as its Beginning into the external and lower Part of the *Radius.*

Quadragemini, are four Muſcles of the Thigh, the *Pyriformis*, the two *Gemini,* and the *Quadratus*; which ſee under their reſpective Names. It ſeems as if theſe had been taken for one Muſcle, and nam'd *Quadrageminus.*

Quadrupedes, from *quatuor*, four, and *pedes*, Feet, are all four-footed Beaſts.

Quality, ſignifies, in general, the Properties or Affections of any Being, whereby it acquires ſome particular Denomination. Thoſe which are cognizable by the Senſes, as *Figure, Solidity,* &c. are call'd *Senſible Qualities.* This Term has, by many Writers, ſerv'd for a Cover only of their Ignorance, when join'd with occult, or any ſuch unintelligible Adjunct; but a ſounder Way of Reaſoning has taught, that all Qualities are remitted, or have their Power or Efficacy abated, in a duplicate *Ratio* of the Diſtance from the Centre of the Radiation, or Exertion of the Quality. Any Quality of the Body is ſaid to be vitiated, when any ſenſible Diſpoſition thereof is hurt; tho' this Phraſe is principally us'd with regard to Colour and Smell.

Let *A* be a Centre from whence any Quality exerts itſelf round about, according to the right Lines *A e, A f, &c.* The Efficacy of the Quality, be it Heat, Cold, Odour, *&c.* will be (at equal Diſtances from *A*) as the *Spiſſitude,* or Thickneſs of the Rays, *A b, A e, A f.* But the Rays within the inner Circle, or rather ſpherical Superficies *b c d H,* when they come to be



be extended to the outer ſpherical Surface, $e\ f\ G\ K$, will not be ſo thick as before, and that in Proportion reciprocally as the Spaces they take up; that is, if the outer Surface be double of the inner, the Rays there will be but half as thick: but ſince ſpherical Superficies are as the Squares of the *Radii*, therefore the Efficacy of the Quality in the inner Surface will be to that of the outer, as $A\ e$ Square to $A\ b$ Square. *Q. E. D.*

Quantity Poſitive. See *Poſitive Quantity.*

Quantity Negative. See *Poſitive Quantity.*

Quantity of Matter, in any Body, is its Meaſure ariſing from the joint Conſideration of its Magnitude and Denſity: as if a Body be twice as denſe, and take up twice as much Space as another, it will be four times as great. And this Quantity of Matter is the beſt diſcoverable by the abſolute Weight of Bodies.

Quantity of Motion, in any Body, is its Meaſure ariſing from the joint Conſideration of the Quantity of Matter, and the Velocity of Motion of that Body: for the Motion of any Whole is the Sum or Aggregate of the Motion in all the ſeveral Parts. And though in a Body twice as great as another, mov'd with an equal Velocity, it will be double; yet, if the Velocity be double alſo, the Quantity of the Motion will be quadruple. See *Laws of Motion*, *of Nature*, *Gravitation*, *Attraction*, &c.

Quartan, is an intermitting Fever, where the Fit returns every third Day, the two ſick Days being reckon'd, and the two intermitting ones making four.

Quid pro quo, the ſame as *Succedaneum*, when one Thing is made Uſe of to ſupply the Defect of another.

Quinquenervia, Plantain; becauſe it has five Strings or Nerves in each Leaf.

Quinſey, the ſame as *Angina*, which ſee.

Quinta Eſſentia, or *Quinteſſence*, the fifth Eſſence. Upon what Fancy this Term had its Origin, ſeems not eaſy to tell, but it is us'd to expreſs the utmoſt Virtue or Efficacy of any Ingredient or Medicine.

Quotidian, is an Intermittent, that returns every Day.

R.

℞ is put at the Beginning of Preſcriptions for *Recipe*, Take.

Rachitæ; the ſemiſpinal Muſcles are thus call'd by ſome.

Rachitis, the Rickets, is a Diſtemper in Children from an unequal Diſtribution of Nouriſhment, whereby the Joints grow knotty, and the Limbs uneven. Its Cure is perform'd by Evacuation and Fric-

Radiation, ſignifies the caſting forth of Beams, Rays of Light, or any ſubtile Particles, from a Centre, *Radius* ſignifying any Line from ſuch a Point.

Radical Moiſture, is a Term that ſome have had ſtrange Notions about; but if it be limited to any intelligible Signification, we can underſtand by it nothing elſe but the Maſs of Blood, which is the Promptuary from whence all other Fluids in an human Body are deriv'd.

Radicle, is a Term amongſt Botaniſts that denotes that Part of the Seed of a Plant, which, upon its Vegetation, becomes its Root. This, in Corn, is that which ſhoots forth in the Malting, and is call'd *Come*, probably from *Coma*, Hair, which it ſomewhat reſembles.

Radiæus Externus, is the ſame as *Extenſor Carpi*; which ſee.

Radiæus Internus, is the ſecond Muſcle of the Wriſt, and ariſes from the internal Extuberance of the *Humerus*, and upper Part of the *Ulna*, and ſtretching along the *Radius*, is inſerted into the firſt Bone of the *Metacarpus* that ſuſtains the Fore-finger, and with the *Cubitæus Internus*, bends the Wriſt. They have their Name from

Radius, a Bone of the Fore-Arm, which accompanies the *Ulna* from the Elbow to the Wriſt. In its upper End it hath a ſmall Cavity, which receives the outer Protuberance of the *Humerus*. The Circumference of this Cavity rolls in the ſmall *Sinus* in the upper End of the *Ulna*. Near its lower End, which is bigger than its upper, it has a little *Sinus*, which receives the End of the *Ulna*; and in its Extremity it hath two *Sinus*'s, which receive the Bones of the Wriſt. Altho' the *Ulna* and *Radius* accompany one another, they touch but at their Extremities; for they bend from one another in the Middle, but are ty'd together by a ſtrong and broad membranous Ligament. The upper End of the *Ulna* is biggeſt, becauſe upon it the Articulation at the Elbow is perform'd; but the lower End of the *Radius* is biggeſt, becauſe upon it only the Hand is articulated. The *Radius* moves either backward or forwards upon the *Ulna*, by which Means the Palm of the Hand is turn'd either upwards or downwards; which two Motions are call'd *Pronation* and *Supination*. Nor could any other Articulation have given theſe two Motions to the Hand; for, tho' an *Arthrodia* admits of a Motion to every Side, yet we cannot, by that, turn the Forepart of our Arm backward: and how uſeleſs the Hands had been without theſe Motions, every one may eaſily perceive. This is alſo call'd *Focile Minus*, the leſſer Focile.

Radius, in Geometry, is the Semi-diameter of a Circle.

Radix, is ſtrictly the Root of any Plant or Vegetable; and thence, in a figurative Senſe, *Radical* is frequently us'd to ſignify the principal or generative Point of any Body or Quantity, as *Radical Moiſture*: and a Number, which, multiply'd into itſelf, makes a Square, is call'd the Root, or *Radix*.

Radula, a wooden Spatule, or a Scraper.

Ramenta, are little Slips or Shreds of any Thing. And,

Ramification, is a Collection of ſmall Branches ſhooting out from any great one. Thus, in Anatomy, the Branchings of an Artery, Vein, or Nerve, are call'd its *Ramifications*; from *Ramus*, a Bough or Branch.

Rancid, is ſaid of Things, which contract a ſtrong offenſive Smell by keeping, as all fat Subſtances.

Ranulæ, and

Ranulares, are thoſe Veins which lie conſpicuous under the Tongue; and this is likewiſe us'd, by our Surgeons, for little Swellings upon the Glands about the ſame Parts.

Rare: A Body is ſaid to be thus, that takes up more Space, in Proportion to the Quantity of Matter it contains, than another does. And,

Rarefaction, is that Extenſion of the Parts of any Body, that makes it take up more Room than it did before. See *Diſtillation*.

Raſure, the ſame as *Abraſion*, or any Thing done by ſcraping or ſhaving, as the *Raſuræ C C.* and *Eboris*, are made.

Ratio, Reaſon, is when two Bodies are compar'd with one another with reſpect to their Bulk. Some confine it to Numbers only, and call it *Proportion*, expreſſing, by it, the Compariſon of one ſingle Quantity to another.

Ray, is, moſt ſtrictly, a right Line, drawn, or flowing from any Point, and is a Term moſt us'd in *Opticks*.

Reaction, from *reago*, to act back upon; is a Term much us'd in *Phyſicks*. See *Nature, Laws of.*

Receptaculum Chyli, the Receiver of the Chyle. See *Lacteal Veins*.

Receptarii Medici; ſo *Langius* calls thoſe who ſet up for Phyſicians upon the Stock only of a great many Receipts, without being able to reaſon about their Properties or Efficacies.

Receptaculum Chymicum, and

Recipient, is the Veſſel, which, in Diſtillation, is made the Receiver.

Reciprocation, is when two Diſeaſes or Symptoms alternately ſucceed one another.

Recrement, ſometimes ſignifies any ſuperfluous Matter mix'd with other that is uſeful; and ſometimes ſuch ſecreted Juices in the Body as are afterwards of Uſe to the Oeconomy.

Recrudeſcent, when any Diſtemper returns that was gone off; as the Paroxyſms of Intermittents.

Rectification, is drawing any Thing over again by Diſtillation, to make it yet higher, or finer.

Recti Muſculi. See *Eye*.

Recti-lineal, right-lin'd; that is, having ſtraight Lines.

Rectus, is a Muſcle of the lower Belly, which ariſes from the *Sternum*, the Extremity of the laſt two Ribs, and goes ſtraight down to the Fore-part of the *Abdomen* to be inſerted in the *Os Pubis*. It hath three or four Innervations, or rather tendinous Coarctations of its fleſhy Fibres, which divide the Belly of it, as it were, into ſo many diſtinct Muſcles. It hath Veins and Arteries, which creep on its Inſide, from the Mammillary and Epigaſtrick Veſſels, which communicate, that the Blood may return by the Mammillary Veins, when the Paſſage is ſtopp'd by the Epigaſtrick, which are compreſſed in Women with Child.

Rectus, is alſo a Muſcle of the Leg, that ariſeth from the lower Part of the Spine of the *Ilium*, and deſcending between the two *Vaſti*, is inſerted with them. Likewiſe,

Rectus, is a Muſcle that lifts up the Eye-lid. It ariſeth from the Bottom of the Orbit of the Eye, where the Optick Nerves pierce the *Cranium*, and paſſing above the *Superbus*, is inſerted, by a large Tendon, into the Border of the Eye-lid.

Rectus Major, is the third Muſcle that pulleth the Head up or backwards. It ariſeth from the Spine of the ſecond *Vertebræ* of the Neck, and is inſerted into the lower Part of the *Occiput*. And,

Rectus Minor, is the fourth Muſcle for this Office. It lies under the former, and cometh from the Back-part of the firſt *Vertebra* of the Neck, and is inſerted below the former. Theſe are alſo, from their Office, call'd *Renuentes*.

Rectus Internus Major, ariſeth from the Fore-part of the five interior tranſverſe Proceſſes of the

Vertebræ of the Neck, and is inſerted into the foremoſt Appendix of the occipital Bone, near its great Hole. And the

Rectus Internus Minor, lies on the Fore-part of the firſt *Vertebra*, like the *Rectus Minor* on the Back-part, and is inſerted into the anterior Appendix of the *Os Occipitis* immediately under the former. Theſe nod the Head forwards, being Antagoniſts to the *Recti Minores*. Theſe are alſo call'd *Annuentes*.

Recti Laterales, are another Pair, which come from the tranſverſe Proceſſes of the firſt *Vertebræ*, and are inſerted near the *Proceſſus Mammillaris*. They help to move the Head to one Side.

Rectum Inteſtinum. See *Inteſtines*.

Recurſus, is uſed by *Bellini* for the Repetition of *Paroxyſms* in an Intermittent. And

Recurrent Nerve, is a Branch of the *Par Vagum*, beſtowed upon the Organs of Speech, whence alſo called *Vocal Nerve*; and thus, becauſe it deſcends and aſcends again to ſupply the Muſcles of the *Larynx*. See *Nerve*.

Redintegration; Chymiſts thus call the reſtoring any mixed Body or Matter, whoſe Form has been deſtroyed, to its former Nature and Conſtitution.

Refection, is the receiving Food or Nouriſhment.

Reflection, in general, is the Regreſs or Return that happens to a moving Body, becauſe of its meeting another; as the Rays of Light are variouſly reflected by Bodies they cannot paſs through.

Refluent, flowing back, is generally aſcribed to the venal Blood, becauſe that flows back to the Heart.

Refraction, is the Incurvation or Change of Determination in the Body moved, and is chiefly applied to the Rays of Light by the Writers in Opticks. And

Refrangible, is whatſoever is capable of Refraction.

Refrigeratory, a Cooler, is that Part of a diſtilling Veſſel that is placed about the Head of a Still, and filled with Water to cool the condenſing Vapours; but this is now generally done by a Worm, or ſpiral Pipe, running thro' a Tub of cold Water.

Regeneration, is uſed in ſo different a Manner by the Chymiſts, that it is hard to ſay what they mean by it; but it ſeems to be what they underſtand by Revivification, which ſee.

Regimen, Government, is uſed for that Care in Diet and Living that is ſuitable to every particular Courſe of Medicine.

Regiſter, is a Contrivance in chymical Furnaces to make the Heat immediately more intenſe or remiſs, by letting more or leſs Air come to the Veſſel.

Regius Morbus, the Kingly Diſeaſe. The Jaundice is thus called, but for what Reaſon does not well appear.

Regnum, is by the Writers in Phyſical and Natural Hiſtory applied to certain Claſſes of natural Bodies; as the animal, vegetable, and mineral Kingdoms, *&c.*

Regular, Conſtant and Uniform, in oppoſition to Irregular, or Anomalous, which keeps to no certain Courſe or Standard; both frequently applied to Diſeaſes, eſpecially acute ones, as the Meaſles, Small-Pox, and the like.

Regular Body, is a Solid, whoſe Surface is compoſed of regular and equal Figures, and whoſe ſolid Angles are all equal; and of which there are five Sorts, *viz.* 1. A Pyramid comprehended under four equal and equilateral Triangles. 2. A Cube, whoſe Surface is compos'd of ſix equal Squares. 3. That which is bounded by eight equal and equilateral Triangles. 4. That which is contained under twelve equal and equilateral Pentagons. And, 5. A Body conſiſting of twenty equal and equilateral Triangles. And Mathematicians demonſtrate, that there can be no more regular Bodies than theſe five.

Regulus, is the finer and moſt weighty Part of Metals, which ſettles at the Bottom, upon melting.

Reiteration; the ſame as *Repetition*.

Relaxation, is a Dilatation or ſlackening any Parts or Veſſels.

Remedium, ſignifies every Thing made Uſe of in the Cure of Diſeaſes.

Remiſſion, is when a Diſtemper abates, but does not go quite off before it returns again, as it is common in Fevers which do not quite intermit.

Renes, the *Kidnies*; which ſee.

Renes Succenturiati. See *Kidnies*.

Renitency, ſtriving backwards, is that Reſiſtance which there is in ſolid Bodies when they preſs upon, or are impell'd one againſt another; or that Reſiſtance that any Body makes on the Account of its Weight.

Renuentes, from *renuo*, to nod backwards, are the ſame Muſcles as the *Rectus Major* and *Minor*, (which ſee;) thus call'd, from their Office.

Repellents. To underſtand rightly the Operation of ſuch Medicines, it may be neceſſary to obſerve, that by repelling is meant thoſe Means which prevent ſuch an Afflux of a Fluid to any particular Part, as would raiſe it into a Tumor: but to know how this may be effected, it will be convenient to attend to the ſeveral Cauſes which can produce a Swelling, or force out of the Veſſels any of their fluid Contents by ſome unnatural Diſcharge.

All Tumors have neceſſarily one of theſe in their Cauſe; either an Increaſe in the Velocity or Quantity of the Fluids, or a Weakneſs in ſome particular Part: and ſometimes both concur. An Increaſe in the Velocity of the Fluids makes them more forcibly puſh againſt and diſtend all their Parts in their Circuit: If therefore, any Part be unequally preſſed, or relaxed by external Injuries, that will be more elevated than any other; and for want of equal Reſiſtance with the reſt of the Body, will at length receive ſuch a Quantity of Fluid as will raiſe it into a Tumor, eſpecially if any of its Veſſels be obſtructed; becauſe the Protruſion of freſh Matter *à Tergo*, will continue to add thereunto, until the Part is upon the utmoſt Stretch, and can hold no more. In this Caſe all thoſe Means are ſaid to be repellent, which check the Growth of the Tumor, and aſſiſt the refluent Blood in taking up the obſtructed Matter, and waſhing it again into the common Stream. This Intention is chiefly favour'd by Evacuation and Revulſion; for whatſoeever leſſens the Quantity of the Fluid, will diminiſh the Force upon the tumefy'd Part. But it concerns us moſt to know, how external Application to the Part itſelf helps to this Affair.

Herein a Medicine comes to be a Repellent, by conſiſting of ſuch ſubtile Parts, as may tranſmit ſome of them thro' the Pores, and help to render the obſtructed Matter more fluid; ſo that it becomes the more eaſy to be looſened, and fall again into the circulating Current. But in this Caſe there is a hazard of ſuch things likewiſe putting the obſtructed Humour into a Ferment, whereby it ſooner turns into *Pus*, and then they come under the Denomination of Suppuratives or Ripeners. What therefore in the moſt ſtrict Senſe is to be reputed a Repeller, is that which aſtringes and ſtrengthens the Part ſo as to make it reſiſt any ſuch Lodgment. Theſe are ſuch, whoſe Qualities are moſt manifeſt in their Coldneſs and drying Properties. But there are ſo very few Inſtances wherein Bandage is not better than ſuch Application, that very little comes to be uſed for that purpoſe. In Hemorrhages and Ouzings out of Serum, ſo as to deform the Skin, Simples of this nature moſtly take place; which anſwer their Ends in aſtringing the Fibres, whereby thoſe Apertures are ſo cloſed, as not to admit thro' them afterwards any ſuch Fluid.

Some things alſo anſwer this End only by ſtimulating the Fibres of the tumify'd Part, ſo as to give them ſudden and forcible Twitches, whereby the Obſtruction is ſometimes looſened and ſhook, as it were, away into the refluent Current. Such a ſort of Motion will be occaſion'd by the ſudden Application of any thing extreme cold, as common Water: but the Practice is ſeldom ſafe; becauſe, if the firſt Efforts, which the Fibres are put upon by thoſe means, do not ſucceed in breaking away the incloſed Matter, they will be ſtrained, and not able afterwards to repeat their natural Vibrations: the Conſequence of which is weakening the Part, which will render the Tumour more obſtinate. There are many other Means and accidental Circumſtances, which contribute to favour or retard this Intent; but theſe Hints may be ſufficient.

Repercutients, the ſame as the former.

Reptiles, from *repo*, to creep, are all thoſe creeping Animals which reſt upon one Part of their Body, while they advance the other forward.

Reſidence, is the *Fæces* or Settling of any Liquor.

Reſins, or *Reſinous Particles*, are the fat ſulphureous Parts of ſome Vegetable, which is natural, or procured by Art; and will incorporate with Oil, or rectify'd Spirit, but not with an aqueous *Menſtruum*.

Reſiſtance, is often the ſame as *Renitency*, or *Vis Inertiæ*. See alſo *Medium*.

Reſolvents, are ſuch Medicines as looſen and open. And,

Reſolution, is the opening or looſening any Body. And there is ſaid to be made a Reſolution of crude Matter in the Body, when that Matter is by what means ſoever ſo changed as to become harmleſs or ſalutary; being of it ſelf a compleat Cure performed without any apparent Evacuation.

Reſpiration. The true underſtanding of this is abſolutely neceſſary to a right Notion of the animal OEconomy; it may therefore be obſerved, that by blowing into a Bladder a conſiderable Weight may be raiſed by the Force of our Breath: For with a Bladder that is oblong, nearly of a cylindrical Figure, and tied at both ends, if a Pipe be fixed at one end, and a

Weight at the other, and the Pipe faſtened at ſuch a diſtance from the Ground, as juſt allows the Weight to reſt upon the Ground, the Bladder by an eaſy Inſpiration will raiſe 7 ℔ Weight, and by the greateſt Inſpiration of a pretty ſtrong Man will raiſe 28 ℔ Weight. Now the Force by which the Air enters this Pipe, is that Force by which it is driven out of the Lungs: If therefore the Force by which the Air enters the Pipe can be determined, we ſhall have the Force by which the Air is drove into the *Aſpera Arteria*.

But the Preſſure of Air upon the Bladder is equal to twice the Weight it can raiſe, becauſe the upper part of the Bladder being fixed, it reſiſts the Force of the Air, juſt as much as the Weight at the other end. And again, ſince the Air preſſes every way equally, the whole Preſſure will be to that part of it which preſſes on the Orifice of the Pipe, as the whole Surface of the Bladder is to the Orifice of the Pipe; that is, as the Surface of a Cylinder, whoſe Diameter, for inſtance, is 4 Inches, and Axis 7, is to the Orifice of the Pipe. If the Diameter of the Pipe be 0.28, and therefore its Orifice 0.616; the Surface of the Cylinder will be 88: Therefore at 88 : 0.616 : : 14, double the leaſt Weight raiſed, to 0.098, which is almoſt two Ounces, and in raiſing of the greateſt Weight it is near ſeven Ounces. Theſe therefore are the Forces by which the Air is drove thro' the *Aſpera Arteria* in an eaſy and a ſtrong Exſpiration. Now if we conſider the Lungs as a Bladder, and the *Larynx* as a Pipe, the Preſſure upon the Orifice of the *Aſpera Arteria*, when the Air is drove out, is to the Preſſure upon the Lungs as the whole Surface of the Lungs is to the Orifice of the *Aſpera Arteria*. Let us ſuppoſe the Diameter of the *Larynx* to be 5, (which is more than it can be) then the Orifice of the *Larynx* is 0.19. Let us ſuppoſe the two Lobes of the Lungs to be two Bladders or Spheres, whoſe Diameters are each 6 Inches, their Surfaces are each 113 Inches, and the Preſſure upon the *Larynx* will be to the Preſſure upon the whole external Surface as 0.19 to 226, which is as 1 to 1189; and therefore if the Preſſure upon the *Larynx* in an ordinary breathing is 2 Ounces, the Preſſure upon the whole external Surface of the Lungs is 148 Pound; and the utmoſt Force, when the Preſſure upon the *Larynx* is 7 Ounces, will be equal to 520 Pound Weight. But the Lungs are not like an empty Bladder, where the Air preſſes only upon the Surface; for they are full of Veſicles, upon the Surface of each of which the Air preſſes as it would upon the Surface of an empty Bladder: and therefore to know the whole Preſſure of the Air, we muſt determine the internal Surfaces of the Lungs. To do this, let us ſuppoſe that $\frac{1}{3}$ part of the Lungs is taken up with the Branches of the *Trachea Arteria*, that another third part the Blood-Veſſels fill, and the remainder is Veſicles, where we ſuppoſe the chief Preſſure upon the Blood-Veſſels to be made: Now both Lobes of the Lungs contain 226 ſolid Inches, of which $\frac{1}{3}$, or 75 Inches, are full of Veſicles. Let the Diameter of each Veſicle be $\frac{1}{50}$ part of an Inch, the Surface of a Veſicle will be .001256, and the Solidity 0000043. by which Sum if we divide 75, (the Space filled by the Veſicles) the Quotient gives us 17441860, for the number of Veſicles in both Lobes of the Lungs. This number multiplied by .001256, the Surface of a Veſicle, gives the Sum of the Surfaces of all the Veſicle, to wit, 21906.976 Inches. And therefore the Preſſure upon the *Larynx* will be to the Preſſure upon the whole Surface of the Lungs, as 0.19 to 21906.976; and conſequently when in an ordinary Exſpiration, the Preſſure upon the *Larynx* is 2 Ounces, the Preſſure upon the whole internal Surfaces of the Lungs will be 14412 Pound Weight; and the utmoſt Force of the Air in breathing, when the Preſſure upon the *Larynx* is 7 Ounces, will be 50443 Pound Weight. Tho theſe ſeem to be prodigious Weights, yet it muſt ſtill be underſtood, that the Preſſure upon each part of the Surface of the Lungs equal to the Orifice of the *Larynx*, is not greater than it is at the *Larynx*, and that theſe vaſt Weights ariſe from the vaſt Extent of the Surfaces of the Veſicles, upon which it was neceſſary that the Blood ſhould be ſpread in the ſmalleſt capillary Veſſels; that each Globule of Blood might, as it were, immediately receive the whole Force and Energy of the Air, and by that be broke into ſmaller Parts fit for Secretion and Circulation. And from thence we may learn the mechanical Reaſon of the Structure of the Lungs: For ſeeing the whole Blood of the Body was to paſs thro' them, in order to receive the Virtue of the Air, and that could not be communicated but in ſmall capillary Veſſels, it was neceſſary that the Surfaces upon which they were to be ſpread, ſhould be proportion'd to their number, which is admirably well provided for by the wonderful Fabrick of the Lungs.

If the Gravity of the Air was always the ſame, and if the Diameter of the *Trachea Arteria*, and the time of every Exſpiration were equal in all, this Weight upon the Lungs would be always the ſame, But ſince we find by the Barometer, that there is 3 Inches difference between the greateſt and the leaſt Gravity of the Air, which is a tenth part of its greateſt Gravity; there muſt be likewiſe the Difference of a tenth Part of its Preſſure upon the Lungs at one time and another: for the *Momenta* of all Bodies, moved with the ſame Velocity, are as their Gravities. This is a Difference, which ſuch as are Aſthmatick muſt be very ſenſible of, eſpecially if we conſider that they likewiſe breathe thicker, that is, every Exſpiration is performed in leſs time; if in half the time, and the ſame Quantity of Air drawn in, then the Weight of the Air upon the Lungs muſt be 57648 Pound, of which a tenth part is 5764 Pound: and conſequently aſthmatick People upon the greateſt Riſe or fall of the Barometer feel a difference of the Air, equal to above one third of its Preſſure in ordinary breathing. Again, if the *Trachea Arteria* is ſmall, and its Aperture narrow, the Preſſure of the Air encreaſes in the ſame proportion as if the times of Exſpiration were ſhorter, and therefore a ſhrill Voice is always reckon'd among the prognoſtick Signs of a Conſumption, becauſe that proceeds from the Narrowneſs of the *Larynx*, or *Trachea Arteria*; and conſequently encreaſes the Preſſure of the Air upon the Lungs, which upon every Expiration beats the Veſſels ſo thin, that at laſt they break, and a Spitting of Blood brings on a Conſumption apace.

Reſurrection, and

Reſuſcitation, the ſame as Revivification; which ſee.

Retention, and *Retentive Faculty,* is that State of Contraction in the ſolid Parts, as makes them hold faſt their proper Contents.

Rete Mirabile, the wonderful Net. See *Brain.*

Reticularis Plexus, the ſame as *Choroides,* which ſee; becauſe the Fibres are interwoven like a Net.

Reticulum, the ſame as *Omentum,* thus called from its net-like Structure.

Retiformis Plexus, the ſame as *Reticularis Plexus.*

Retiformis Tunica, the ſame as *Amphibleſtroides,* which ſee.

Retina. See *Eye.*

Retinaculum, is the name of a chirurgical Inſtrument, deſcribed by *Scultetus, Arm. Chir. Par.* 1. *Tab.* 17. *Fig.* 2. and its Uſe given alſo by him, *Tab.* 39. *Fig.* 2, 3, 4. to aſſiſt in Caſtration, or cutting an *Hernia.*

Retort, a chymical Veſſel of Glaſs uſed for diſtilling in a Sand-heat.

Retractores, the ſame as *Elevatores Labii ſuperioris*; which ſee.

Revelation: What the common Acceptation of it is, every one knows: But *Helmont,* and ſome of the Enthuſiaſtick Chymiſts, often laid Pretenſions to to the ſame Aſſiſtances in diſcovering their Secrets; but were never credited by any but the moſt ignorant.

Reverberatory, is ſuch a chymical Furnace where the Flame and Heat is thrown back by the Brick-work upon the Veſſel, ſo as to make the Heat more intenſe; as in the Diſtillation of acid Spirits, *&c.*

Revulſion, from *Revello,* to pull back; is the calling back any Humour by Evacuation. See *Phlebotomy:* And

Revulſoria, are Means which procure Revulſion.

Revivification, fetching again to Life. Chymiſts uſe this Term to expreſs the procuring again ſome Metals in their natural State from the Mixtures they may have been blended into by ſome Preparations, as Quickſilver is revived from Cinnabar, *&c.*

Rhachis. See *Rachis.* This is ſometimes uſed for the Spine.

Rhagades, are Fiſſures appearing ſometimes on the Hands, Feet, Lips, *&c.* but the word is uſed peculiarly to ſignify Fiſſures, tho theſe for diſtinction ſake are ſometimes called *Rhagades ani,* about the Verge of the *Anus,* proceeding from an acrimonious Humour fretting the Part.

Rheum, from ῥέω, *fluo,* to flow, is a thin watry Matter ouzing thro' the Glands, chiefly about the Mouth.

Rheumatiſm, from the ſame Etymology, is a Diſtemper affecting chiefly the *Membrana communis Muſculorum,* which it makes rigid and unfit for motion, without great pain. And this ſeems to be brought about much by the ſame Cauſes, as the mucilaginous Glands in the Joints are render'd ſtiff and gritty in the Gout. The Cure depends on Evacuation, and a plentiful uſe of Volatiles and Diluters.

Rhodon, from ῥόδον, *Roſa,* a Roſe. Some Compoſitions wherein this is the chief Ingredient, have their names from hence; as *Diarrhodon,* *&c.* Hence alſo,

Rhodoſaccharum, from the former, and *Saccharum,* Sugar, is Sugar of Roſes.

Rhomboides, is a Muſcle thus called from its Figure, which lies under the *Cucullaris,* and ariſeth from the two inferior Spines of the Neck, and four ſuperior of the Back; and is inſerted fleſhy into the whole Baſis of the *Scapula,* which it draws backwards.

Rhombus, is a quadrilateral Figure, having two acute and two obtuſe Angles.

Rhithm, from ῥυθμίζω, *ad numeros aptos refero*, to bring to a Calculation, or to compute: is uſed to expreſs a certain number of Pulſes in any given time.

Ribs. See *Coſtæ.*

Rigation, the ſame as *Irrigation*, the ſprinkling or moiſtning any thing or part.

Right Line, is the neareſt Diſtance between any two Points.

Rigidity, is ſaid of the Solids of the Body, when being ſtiff or unpliable they cannot readily perform their reſpective Offices. This is to be remedied by Fomentations, Bathing, *&c.* But a Fibre is then ſaid to be rigid, when its Parts are ſo ſtrongly cohered together, as not to yield to that action of the Fluids, which ought to overcome their Reſiſtance, in order to the preſervation of Health.

Rigor, is a convulſive Shuddering from Cold, or an Ague-fit.

Rima, is any Fiſſure or Chink; hence it is apply'd to ſeveral parts of the Body that have any reſemblance thereunto in ſhape; as the *Rima Pudendi*, or *Fiſſura Magna*, is the *Vulva*; and *Rima Laryngis*, is the Aperture of the Larynx, *&c.*

Rimula, a little Chink or Fiſſure; is only a Diminutive of the foregoing, and apply'd to leſſer Parts of the ſame Make; as that ſmall Aperture between the *Cartilagines Arytenoides*, commonly called the *Glottis*.

Ripeners, or Drawers; are ſuch Medicines externally apply'd, as do by their Activity and Warmth penetrate the Pores, and mix with and rarify any obſtructed Matter, ſo that it may be render'd fit for diſcharge upon laying open the Part by Cauſtick or Inciſion.

Riwand, and *Riwandtzini*, are Arabick Words for Rhubarb, and which *Rolfinkius*, and ſome Latin Writers, ſtill retain.

Rob, is an antient Term for inſpiſſated Juices, but is now laid aſide.

Roborantia, from *Robur*, Strength, are ſuch Medicines as ſtrengthen the Parts, and give new Vigour to the Conſtitution. See *Strengthners.*

Roche, is applied to the Rock Alum; the Term in *French* ſignifying Rock.

Roriferous Ducts, Dew-dropping Pipes: the *Thoracick* Duct is thus by ſome called, from its ſlow manner of conveying, and as it were inſtilling the Chyle into the common Stream of the Blood: The Lymphaticks alſo and any other Veſſels conveying ſlowly ſmall Quantities of Fluid, are thus called by *Bilſius*, *Bartholine*, and ſome others.

Roſacea, or *Roſata*, is a Name given to many Compounds, where Roſes are the principal Ingredients: And,

Roſalia, is a Diſtemper taken notice of by *Martian* in his Notes upon *Hippocrates*, very common to Children, not much unlike the Meaſles; and wherein broke out ſmall red Pimples of the bigneſs of Millet-Seed: probably the ſame as our *Febris Miliaris*, unleſs in the Colour at the Eruption.

Roſeolæ, is by ſome Authors uſed much for the ſame thing; and *M. A. Severinus* hath particularly wrote a large Treatiſe *de Roſeolis Saltantibus*; and aſſigned therein Reaſons for his giving thereunto the Epithet of *Saltantes.*

Roſtriformis Proceſſus, from *Roſtrum*, a Beak, and *Forma*, Shape, is the ſame as *Coracoides*; which ſee.

Roſtrum, is uſed to expreſs the Pipe which conveys the diſtilling Liquor into its Receiver, in the common Alembicks: alſo for a crooked Sciſſars which the Surgeons in ſome Caſes make uſe of for the Dilatation of Wounds.

Rotator, a Roller. See *Trochanter*.

Rotula, a little Wheel or Pully, the ſame as *Patella*; which ſee.

Rotula, is alſo uſed in the ſame ſenſe as *Tabella*, or Lozenge.

Rotundus, is one of the Muſcles of the *Radius*, thus called from its round Shape. It ariſes fleſhy from the internal Extuberance of the *Humerus*, and goes obliquely to be inſerted into the middle and external Parts of the *Radius*; with others helping to turn the Palm upwards.

Ructation, and

Ructus, is a Belching that ariſes from Wind and Indigeſtion; and rather to be cured with proper Stomachicks than Carminatives and hot Liquors.

Ruminant, Cud-chewers, is a general Name for all thoſe Animals that chew the Cud.

Ruptile, is uſed by *Fallopius* for any thing eaſy to be broke; and he aſſigns the Cauſe of *Ruptibility*, as he calls it, to a multitude of Pores wanting due moiſture in them.

Ruſma, an Ingredient of a Compoſition uſed to take off Hair, without the trouble of ſhaving. For being mixed up into a thin Paſte with an equal quantity of Quick-lime, and a ſufficient proportion of Water, and rubbed over any hairy part of the Body, it will in the ſpace of a minute or too, ſo looſen the Hair by the Roots, that it may be gently ſtroked off with the Hand. This method of taking off Hair is much practiſed among the *Turks*, the *Italians*, and the *French*. The *Ruſma Tartarorum* is ſaid to be a Preparation of Honey, boil'd to a high Conſiſtence, and applied in the manner of a Plaiſter; but the genuine *Ruſma* is a Species of Earth found in *Turkey*, and otherwiſe call'd by the Name of *Suſma*. There is mention made of it in the *Philoſophical Tranſactions* for the Month of *December* in the Year 1666.

S.

S. A. *Secundum Artem*, according to Art, is a Term frequently uſed in Preſcription; and then properly when the making up of the *Recipe* in Perfection, requires ſome uncommon Care or Dexterity.

Sabulous, is that gritty or ſandy Matter which often waſhes away by the Kidneys, and ſettles in the Urine.

Saccharum, Sugar. The native Salt of the *Sugar-Cane*, obtain'd by the Expreſſion and Evaporation of its Juice. 'Tis an admirable Medicine of a very detergent Nature. Many Accuſations have been brought againſt it by ſuch Perſons as were never at the Pains to analyze or thoroughly conſider it's Nature. Such Men have no right to be heard. But whoever will take the Trouble may be ſatisfied that it is a very noble Salt of very extraordinary Virtues, tho it certainly contains a latent Corroſive. 'Tis wonderfully well diſpoſed to unite with various Subſtances, ſo as to preſerve them in great Perfection. The Confectioner's Art, and a very conſiderable part of Pharmacy will witneſs to this Truth. The Nature Properties, Virtues and Uſes of Sugar wou'd require a Volume to do them Juſtice. This Term is alſo by our Chymiſts applied to many Preparations having ſome Reſemblance thereunto; as the *Saccharum Saturni*, and the like. And

Saccharine, is frequently aſcribed to things having the Taſte, or any other of the chief Qualities of Sugar; as *Bonetus* gives an inſtance, *Med. Sept. Lib.* 2. *Sect.* 3. *Cap.* 1. of a Perſon whoſe Spittle was ſweet, for which reaſon he calls it *Saccharina Saliva.*

Saccus, and

Sacculus, is ſtrictly a Bag, whence from their reſemblance many parts of the Body are thus called; as

Sacculus Chyliferus, the ſame as *Receptaculum Chyli*; and

Sacculus Cordis, the *Pericardium*, &c.

Sacculi Medicinales, are Bags of Ingredients to be ſuſpended in Liquors in making Diet-Drinks.

Sacer: Some give this name to part of the *Tranſverſalis Dorſi*; which ſee.

Sacer Ignis, the Holy Fire; ſome have fancy'd to give this name to a *Herpes Exedens*, (which ſee) but it does not appear from what reaſon: As alſo is,

Sacer Morbus, given to the Epilepſy, upon the Apprehenſions of ſomewhat ſupernatural being concerned in its Production, or Cure.

Sacrolumbus, is a Muſcle that ariſeth fleſhy from the ſuperior part of the *Os Sacrum*, poſterior part of the *Ilium*, and from all the Spines and tranſverſe Proceſſes of the *Vertebræ* of the Loins. It gives a ſmall Tendon to the poſterior part of each Rib near its Root, where a ſmall Bundle of fleſhy Fibres ariſes and unites with each aſcending Tendon to the third, fourth, fifth, and ſixth *Vertebræ* of the Neck. This with the *Serratus Poſticus Inferior*, and *Triangularis*, help to contract the Ribs in Exſpiration. But they are of ſmall force, and ſeem only to accelerate the Motion of the Ribs, which fall down chiefly by their own Gravity, and the elaſticity of the Ligaments by which they are tied to the *Vertebræ*.

Sacrum Os. See *Vertebra.*

Saga, one who deals in *Præſtigiæ* or Inchantments; which Practice ſome of the chymical Enthuſiaſts very much gave into.

Sagittalis Sutura. See *Suture.*

Sal, Salt. See *Principles.*

Salacious, is Luſtful, or addicted to *Venery.*

Salitura, is a Pickle made with Salt; the ſame as *Muria* or Brine.

Saliva, is often uſed for *Sputum*, every thing which is ſpit up; but it more ſtrictly ſignifies that Juice which is ſeparated by the Glands, called *Salival.* See *Mouth*: whence,

Salivation, is a Method of Cure much practiſed of late in venereal, ſcrophulous, and other obſtinate Caſes, by promoting a ſecretion of Spittle: The manner how Mercury effects this, may be underſtood by what has been explained under that Word. To which it may be here added, that the ſafeſt way of raiſing a Salivation, is by the uſe of internal Medicines; ſince whatſoever

ſoever Miſchiefs can be apprehended from theſe, may in a greater degree follow the external uſe of Mercury; not only becauſe, as has been already hinted, the mineral Globules being intimately combin'd with Salts in the ſeveral Preparations given inwardly, will, by the irritation of theſe, be eaſily and fully thrown out at the Organs of Secretion, till the Blood is quite diſcharg'd of its Load; whereas in all the Daubings with Mercurial Ointments, we can never be certain that none of the heavy Particles are left lodg'd in the Interſtices of the Fibres or Cells of the Bones: but alſo in as much as by computing the Proportion of Mercury, in all the Doſes neceſſary to promote a Spitting, and the weight of the ſame Mineral uſually apply'd, when this is done by Unction, it will appear, that the quantity in the latter Caſe vaſtly exceeds that in the former; and conſequently, that the Inconveniencies to be fear'd will be in the ſame proportion. Therefore this external Management of Mercury is only to be allow'd of, where either the Caſe will bear the Violence of ſuch a Method, or outward Ulcers and Tumours require a particular Cure by Liniments, *&c.*

Nor is it improper to remark, that we do hereby ſee how this uſe of this Mineral comes to produce that Effect ſo often complain'd of (tho not always with reaſon) of making the Bones foul or carious. For if the *Laminæ* or Fibres of theſe are already ſo much broken and ſpoil'd by a Diſeaſe, as that the Circulation of the Fluids thro' them cannot be maintain'd, they muſt neceſſarily be corrupted more by the Weight of the Mercurial Globules: tho here alſo it is plain, that the *outward* Uſe of this Remedy will be more to be blam'd than the *inward.*

And indeed as the earlieſt uſe of Mercury was in Unguents and Emplaiſters; ſo moſt of the Prejudices and Outcries about it are owing to Effects produced this way. For the firſt Attempts of the Cure of *Venereal* Maladies by this Remedy, were learn'd from the *Arabians*; who having recommended Mercurial Ointments in the *Lepra* and *Scabies*, gave a handle to the *Italian* Phyſicians to try their Efficacy, in removing the Foulneſs of the Skin from a new and terrible Contagion: neither were they ſparing of their Liniments, which they continued to rub in twelve or fifteen, nay, ſometimes for above thirty Days together; ſo that it is no wonder if they often met with very untoward Symptoms from ſo ſevere a Treatment; and if (as ſome of them do affirm) they now and then found Mercury in the rotten Bones of their Patients; who had, it may be, ſuffer'd too much, both from their Diſeaſe and their Phyſicians. Hence,

Salivantia, are Medicines which promote Spitting.

Salſamentum, and

Salſugo, are any Salt-Pickles, or Brines.

Salvatella, is a Vein which terminates in the little Finger.

Salubris, and

Salutaris, both from *Salus*, Health, expreſs any thing in Health, or conducive thereunto; and even ſuch Diſeaſes are by ſome called *Salutary*, as are curable, and leave the Conſtitution better than before; as the Gout, *&c.*

Salutatores, *Saluters.* There were a Set of Enthuſiaſts or Impoſters in *Spain*, of the Order of St. *Katherine*, who pretended to the Cure of many Diſeaſes, by touching or breathing only upon the Patient, in their ordinary Intercourſes with them.

Sampſuchinon, σαμψύκινον, is a Name which hath been given to an Oil, and an Ointment wherein Marjoram was the chief Ingredient; from *Sampſuchus*, a ſynonymous Term for that Plant.

Sanative, from *Sanitas*, Health, is any thing conducing thereunto.

Sancti Viti Chorea. See *Chorea Sancti Viti*.

Sanctus, holy. This hath been applied to many things both ſimple and compound, as whimſical Perſons have conceited of their Virtues; as the *Guaiacum* is called *Lignum Sanctum*, and even our own Diſpenſatorys retain a purging Pouder under the Title of *Pulvis Sanctus*.

Sandaraca, hath been uſed to ſignify many different things, as a waxy Subſtance falling with Spring-Dew, in which Bees are ſaid much to delight: It is alſo the *Arabian* Name for Gum-Juniper, or the *Vernix*; as likewiſe for a mineral Production not much unlike Arſenick, on which account that is ſometimes called *Arſenicum rubrum*.

Sandyx, is Ceruſs burned till it reſembles the red Arſenick in Colour; or is a red Earth, the ſame probably as the red Orpiment.

Sanguification, making Blood. This may be underſtood by conſidering what is explained under the Term *Digeſtion*: For as the Chyle is made out of our Aliments by the Contractions and Attritions of the Stomach, ſo the Chyle is made into Blood by the Attrition of the Arteries thereupon. See further under Blood, Lungs, Phlebotomy, *&c*.

Sanguine, Bloody, or of a Conſtitution abounding with Blood; from *Sanguis*, Blood; which ſee.

Sanguiſuga, Blood-ſucker, a Name given by ſome to a Leech, from its Faculty of drawing Blood from Animals.

Sanies, a thick and bloody *Pus*, or Matter.

Sanitas. See *Hygieia*.

Sapa, the Name of an old Form of Medicine like *Rob*, which is a Juice boiled up to ſome Conſiſtence; ſtrictly that of Grapes, tho uſed alſo for others ordered after the ſame manner.

Saphena, probably from σαφὴς, *manifeſtus*, eaſy to be ſeen, becauſe it lies very plain in ſight; is a Vein in the Leg. See *Vein*.

Sapientiæ Dentes, thus called becauſe they appear not till Perſons are of years of Diſcretion. See *Dentes*.

Sarcocele, from σὰρξ, *Cæro*, Fleſh, and κήλη, *Tumor*, a Swelling; is a fleſhy Excreſcence of the Teſticles, which ſometimes grows ſo large as to ſtretch the *Scrotum* much beyond its natural ſize. Alſo

Sarcoma, is of the ſame ſignification; as is likewiſe

Sarcoſis.

Sarcoticks, from the ſame Derivation, are Medicines that fill up Ulcers with new Fleſh, the ſame as Incarnatives; which ſee. Many other Words are alſo compounded at pleaſure from the ſame Foundation, not of any moment to inſert here.

Sartorius, called alſo *Longus Tibiæ*, is a Muſcle that ariſeth from the inferior Part of the Spine of the *Ilium*, and running obliquely by the inſide of the Thigh, is inſerted into the internal ſide of the *Tibia*, three or four Fingers breadth below its upper Extremity. By this we throw one Leg croſs another.

Saturantia, is ſometimes uſed in the ſame Senſe as *Abſorbents*; which ſee.

Saturnus. Chymiſts aſcribe this Name to Lead; becauſe they will have that Metal to be under the Influence of the Planet *Saturn.* See *Lead.*

Satyriaſis, and

Satyriſmus, from σάτυρος, *Satyrus*, a Satyr, a kind of Ape or Monkey, which is greatly addicted to Venery, whence this ſignifies a luſtful Diſpoſition.

Saxifrage, quaſi *Saxum frangere*, to break the Stone, is applicable to any thing having this Property, but is a Term moſt commonly given to a Plant, from an Opinion of its Medicinal Virtues to this effect.

Saxonicus, is an Epithet which hath been given to a compound Pouder, yet retained in ſome Diſpenſatories, for its ſuppoſed Efficacy in breaking the Stone, or expelling it.

Scabies, a Scab, is uſed ſometimes for the Itch, and ſuch-like cutaneous Eruptions.

Scala, a Scale or Ladder, is applied to a Chirurgical Inſtrument, for reſting and defending the Limbs in caſe of Fractures or Diſlocations; of which *Scultetus* gives a Figure. *Arm. Chir. Part* I. *Tab.* 29. *Fig.* 3. and its Uſe, *Tab.* 49. *Fig.* 1. but figuratively ſome have applied this to a Man's Life, which they divide into different Ages, calling the whole *The Scale of Life.* Some alſo will have it, that the *Scala Jacobi*, *Jacob*'s Ladder, denotes only ſuch a Knowledge of the Air, and the Elements above us, as in a myſtical Senſe may be ſaid to aſcend up into Heaven.

Scalenum, is a Muſcle of the Neck that ariſeth from the firſt and ſecond Ribs, and aſcending, is inſerted into all the tranſverſe Proceſſes of the Neck except the firſt. This Muſcle ſeems to be three; but ſuch Diviſion is not of any real Uſe. It is perforated for the Paſſage of the Veins, Arteries, and Nerves; becauſe the Neck is more eaſily moved than that part of the Ribs to which they are faſtened: therefore it is juſtly reckon'd amongſt the Benders of the Neck.

Scapellatum, is by ſome Authors uſed in the ſame Senſe as the *Greeks* applied *Phimoſis*, φίμοσις, for a Denudation of the Glans of the *Penis*, when the Prepuce could not draw over it.

Scaphoides, from *Scapha*, σκάφη, a Boat, and εἶδος, *forma*, Shape, the ſame as *Naviculare Os*: which ſee.

Scapulæ, 'Ομοπλάται, or Shoulder-blades, are two large and broad Bones, like the Triangle call'd *Scalenum*; they are ſituated on each ſide of the upper and back part of the *Thorax*. The Subſtance of the Scapula is thin, but ſolid and firm; its outſide is ſomewhat convex, and its inſide concave; its upper edge is call'd *Coſta ſuperior*, and its lower *Coſta inferior*; its broad end is call'd its Baſis, which, with the two edges, make the upper and lower Angles. They have each three Proceſſes, of which the firſt runs all along the middle of their outſide, and is call'd their Spine. That end of the Spine, which receives the Extremity of the *Clavicula*, is call'd *Acromion*. The ſecond Proceſs is a little lower than the *Acromion*; 'tis ſhort and ſharp like a Crow's Bill, therefore call'd *Coracoides*; theſe two Proceſſes are tied to one another by a ſtrong Ligament which ſerves to keep the Head of the *Humerus* in the Cavity of the third Proceſs, which is called *Cervix.*

This Proceſs is the Extremity of the Scapula, which is oppoſite to its Baſis. It has a round *Sinus*, tipt about its Brim with a Cartilage, which receives the Head of the *Humerus*. The Uſe of the *Scapula* is to receive the Extremities of the *Clavicula* and *Humerus*, for the eaſier Motion of the Arm, and to give riſe to the Muſcles which move the Arm.

Scapus, is a Term in Botany for the ſtrait Stalk or Shaft of a Plant, ſtanding upright like a Pillar or Column.

Scarf Skin. See *Cuticula.*

Scarification, is an Inciſion of the Skin with a Lancet, or ſuch-like Inſtrument; and is moſt practiſed in Cupping, which acts by Stimulation as well as by Evacuation.

Scarificatorium, is the Inſtrument to make Scarification withal, and is of late very conveniently ordered by a number of Points ſet in a Plane, which are all ſtruck into the Part at once.

Scarletina Febris, Scarlet-Fever, the ſame as Purple-Fever; which ſee.

Sceletum, a Skeleton. This is the Bones of the Body preſerved together as much as can be in their natural Situations: And thoſe in a human Body, are

The *Os Frontis*	1
Occipitis	1
Oſſa Parietalia	2
Temporum	2
Oſſicula Auditus	8
Os Ethmoides	1
Sphenoides	1
Mali	2
Maxillare	2
Unguis	2
Naſi	2
Palati	2
Vomer	1
Maxilla Inferior	1
Dentes Inciſivi	8
Canini	4
Molares	20
Hyoides	1
	61
Vertebræ Cervicis	7
Dorſi	12
Lumborum	5
Oſſis Sacri	6
Os Coccygis	3
Scapulæ	2
Claviculæ	2
Coſtæ	24
Sternum	1
Oſſa Innominata	2
	64
The *Humerus*	2
Ulna	2
Radius	2
Oſſa Carpi	16
Metacarpi	8
Digitorum	30
	60
The *Os Femoris*	2
Rotulæ	2
Tibia	2
Fibula	2
Oſſa Tarſi	14
Metatarſi	10
Digitorum	28
	60
In all	245

Beſides the *Oſſa Seſamoidæa*, which are ſaid to be found to the Number of 48.

Scelotyrbe, from σκέλος, *Crus*, the Leg, and τύρϐη, *Tumultus*, Uproar; ſignifies thoſe Pains in the

Legs that generally attend ſcorbutick Habits: whence it is alſo frequently uſed for the Scurvy it ſelf, and applied to ſome Medicines contrived againſt ſuch Diſorders.

Sceptick, is one who doubts the Truth of any thing, till thorowly examined; tho ſome go ſo far under this Pretence, as hardly to be convinced by any Evidences. *Galen* makes mention in his Time of a publick School or College of Phyſicians, who profeſſed themſelves *Scepticks*; but *Carteſius* hath of late given much Encouragement to this Sect, whom he hath taught to call every thing in queſtion till re-examined; and our Countryman Mr. *Boyle* hath wrote a Book well known, under the Title of the *Sceptical Chymiſt*; where every thing is laid down rather by way of Enquiry, than as Matter well known and ſettled.

Scheſis, σχέσις, is a Diſpoſition of the Body accidentally contracted, not yet ſo fully confirmed, but that it may eaſily again be altered; in Diſtinction from ἕξις, which is a confirmed Habit. Hence alſo *Schetica Febris* is one that will ſoon give way to Remedies, contrary to the *Hectica*, which is ſo confirmed in the Habit as not to be removed but by long Time, and great Difficulty.

Scholium, is a Remark made at pleaſure, and as it were by the by; on any Propoſition, before advanced and treated of.

Sciatica. See *Gout*.

Scirrhus,

Scirrhoma, and

Scirrhoſis, from σκιῤῥόω, *induro*, to harden; is an Induration of the Glands from gritty obſtructed Matter, as it happens frequently to the Liver in a Jaundice, and the like.

Sclerophthalmia, σκληροφθαλμία; is a *Lippitudo dura*, wherein the Eye-Lids turn out red, hard, and dry; and very difficult to cure. Whence,

Sclerotica Tunica, ſo called from σκληρόω, *induro*, to harden; is the ſame as *Cornea*. See *Eye*. Thus alſo

Scleroticks, are Medicines which harden and conſolidate the Parts they are applied upon.

Scobs, moſt properly ſignifies the Pot-Aſhes, or the *Scoria* of any Metal, but is by ſome more laxly applied, as *Scribonius Largus* mentions a *Scobs eborea*, as does alſo *Celſus* give it to various things.

Scopus, σκοπὸς, Scope, is by ſome uſed in the ſame Acceptation as Intention or Indication; but others have very critically diſtinguiſhed between them, not of moment enough to take notice of here.

Scorbutica, are Medicines which prevail againſt the

Scorbutus, Scurvy; a Diſeaſe that ſome Writers make various Diſtinctions about, tho not to any great purpoſe. It is a Conſtitution wherein the Blood is unequally fluid, and is beſt remedied by *Stimuli*, Exerciſe, and ſuch means as aſſiſt in Sanguification.

Scoriæ, are the Recrements of Metals, *i. e.* Droſs.

Screation, is by ſome taken for hawking up ſomewhat to ſpit out, and others for the Matter it ſelf ſo raiſed.

Scrobiculus Cordis, the ſame as *Anticardium*; which ſee.

Scrophula, the ſame as *Struma*, the King's Evil; is a preternatural Obſtruction and Eroſion of the Glands.

Scrotocele, from *Scrotum*, the Cod, and κήλη, *Tumor*, a Swelling; is a Rupture of the

Scrotum. See *Generation Parts of, proper to Men*.

Scrotum Cordis, the ſame as *Pericardium.*

Scruple, a Medicinal Weight conſiſting of 20 Grains, and making the third of a Dram.

Scutum, ſignifying an Helmet, hath by Anatomiſts been applied to many Parts of the Body having reſemblance thereùnto in Figure; as,

Scutiforme Os, the ſame as *Patella*; thus called from its reſemblance to a Shield in Shape, as this Term imports. Hence alſo,

Scutiformis Cartilago, is the *Cartilago Enſiformis*; which ſee.

Seceſſion, the going off by Secretion, as the Excrements are particularly ſaid to be formed by the Seceſſion of thoſe Parts, whereof they conſiſt, from the animal Fluids, thro' their proper Outlets.

Secretion. See *Animal Secretion.*

Section, is properly the cutting any thing whatſoever; and the Manner or Poſition in which it is done with reſpect to the Figure of any Part, making it ſaid to be perpendicular, parallel, tranſverſe, or the like.

Secundary Fever, is that which ariſes after a Criſis, or the Diſcharge of ſome morbid Matter, as after the Declenſion of the Small-Pox, or Meaſles; and ſuch a Fever is frequently dangerous.

Secundine, or After-Birth, is all that is brought from the *Uterus* after Delivery, as the *Chorion*, *Ammion*, &c. See *Fœtus.*

Secundum Naturam, κατὰ φύσιν, according or agreeable to Nature, in oppoſition to preternatural, or out of the common Courſe of Agency in Nature.

Segment, is a Figure contained between a Chord and an Arch of the ſame Circle, or ſo much of the Circle as is cut off by that Chord.

Segregation, is a total Separation of ſolid Parts from their Contact with one another, as in ſome fractured Bones, or the like.

Sella Equina, and

Sella Sphenoides, and

Sella Turcica, are various Names for the ſame thing. See *Brain.*

Semeiotica, is that Part of Phyſick which treats of the Signs of Health and Sickneſs.

Semen, Seed. For ſo far as this is concern'd in *Botany*, ſee *Vegetable*. And beſides what hath been ſaid under *Animalcule*, *Conception*, *Generation*, and *Fœtus*, (which ſee) for the Secretion of this Fluid, it may be conſider'd, that the Blood is carry'd to the Teſticles by the Spermatick Arteries, which, contrary to the conſtant Method of Nature in framing the other Arteries, are ſmalleſt where they ſpring from the Trunk of the great Artery, and immediately dilate to a conſiderable Bigneſs: Which evidently ſhews, that there could be no other Deſign in it but to retard the Velocity of the Blood. We cannot ſuppoſe that the only Intention was, that a ſmall Quantity of Blood might go to the Teſticles; becauſe then there had been no occaſion for giving this Artery a different Figure from all others; that narrow Orifice would have been ſufficient of it ſelf for that purpoſe, which the Wideneſs of the Artery immediately afterwards does neither hinder nor further. The Orifices of the ſpermatick Arteries are ſo ſmall, that they cannot be meaſured, as may the Dimenſions of the other Arteries; and yet they are hardly gone from the *Aorta* before they dilate as big, if not bigger, than one of the Lumbals, which is 434.2. Now, if we ſuppoſe their Orifices to be each 17.3, then the Blood will move 25 times ſlower where the Artery dilates than it does at its Orifice. Again, we conſtantly find that all the Parts of the Body are ſupply'd with Blood by ſmall Arteries from the neareſt Trunks. If this Method had been obſerv'd in ſending the Blood to the Teſticles, they had receiv'd their Arteries from the Iliacks; and they had ran but a little way before they had come to the end of their Journey. But inſtead of this, two ſmall Arteries are made to ariſe from the *Aorta*, a little below the Emulgents, and to march above a Foot before they come to the Teſticles. Now if we conſider, that the Velocity of the Blood in the ſpermatick Artery, is 25 times ſlower than it is at its Orifice, that is, in the *Aorta*; and that the Velocity of Blood in the Iliacks, can be but very little leſs than it is in the *Aorta*, where the Spermaticks ariſe; the Blood muſt move 25 times ſlower to the Teſticles, than if it had gone after the ordinary manner from the Iliacks. And becauſe the Space it runs thus ſlowly, is at leaſt 6 times longer than if it had gone from the Iliacks; therefore it muſt be 150 times longer in going to the Teſticles, than if it had gone according to the common Courſe of Nature. So that the inteſtine Motion of the Blood is not only allay'd, but ſufficient time is afterwards allow'd the Particles, which are to compoſe the Seed, to attract and coaleſce before they arrive at the Teſticles.

Semilunar Valves, thus called from their reſemblance in ſhape to a half Moon. See *Heart*.

Semimares, half Males, ſo *Rolfinkius*, and ſome others call thoſe who have been caſtrated, as Eunuchs, Geldings, *&c.*

Semimembranoſus, half membranous, is a Muſcle that ariſeth tendinous from the Protuberance of the *Iſchium*, immediately below the *Seminervoſus*, and is inſerted by a large Tendon into the upper and back part of the *Tibia*. This is one of the four Muſcles that bend the Leg.

Semimetalla, half Metals, ſuch as the *Marcaſites*, *Stibium*, *Biſmuth*, and the like.

Seminalis Capſula, or Seed-Bag, is the Husks that contains the Seed of any Plant.

Semination, is called by *Blaſius* the Immiſſion of the Male-Seed into the Womb in Coition.

Seminervoſus, half nervous, is a Muſcle that ariſes from the Protuberance of the *Iſchium*, and is inſerted by a round Tendon into the internal Part of the *Epyphyſis* of the *Tibia*, and helps to bend the Leg.

Semiſpeculum, is an Inſtrument deſcribed by *Hildanus* for dilating the Neck of the Womb.

Semiſpinatus. See *Tranſverſalis Dorſi.*

Semitertian. Altho many have wrote concerning this, particularly *Sennertus*, *Hoffman*, *Willis*, and *Sylvius*; and tho *Spigelius* hath wrote a whole Treatiſe about it, yet it is difficult to collect from them all what they mean by it; tho it ſeems to be taken for a common Tertian, joined with more than ordinary Symptoms of Malignancy, and rather remitting than intermitting, there being no Intervals quite free from the Fever.

Senſation. All Senſation is performed by the immediate Action of the finer and more fluid Parts of Bodies upon the Organs of Senſe; the Impulſe communicated by theſe ſubtile Parts of Bodies, upon the Organs fitly diſpoſed, is thro' them tranſmitted to the Nerves, appropriated and contrived for ſuch a Senſe, and thro' them to the Brain. Thus in Viſion, the Light reflected from the Surfaces of Bodies is tranſmitted thro' the Humours of the Eye, and congregated upon the *Retina,* in the ſame manner it was reflected from the Body; and thereby an Impulſe modify'd after a certain manner, ſtrikes the Filaments of the Optick Nerves, which convey this Impulſe to the Brain. In Hearing, the Sound, after divers Modifications in its Paſſage thro' the *Meatus Auditorius*, ſtrikes on the *Tympanum,* which moving the Bones of the Barrel, and they the encloſed Air of the Labyrinth, the auditory Nerves there are moved after the ſame manner they would have been had the common Air acted upon them, with the advantage of a better qualify'd and gentler Impulſe than they could have had otherwiſe. In Smelling, Taſting, and Touching, the Effluvia and more ſubtile Parts of Bodies act immediately upon the Nerves themſelves, and they communicate this Action to the Brain: So that in ſome manner all Senſation is nothing but touching, ſeveral ways diverſify'd. See *Brain*, *Narcoticks.*

Senſorium; the common Senſory in Man is ſuppoſed to be that Part of the Brain where all the Points or Extremities of the Nerves meet and unite, that is, in the *Medulla Cerebri.*

Septenarius, and *Septennium,* containing the Space of ſeven Years: Some of the Antients reckon'd every Conſtitution underwent ſome remarkable Change in every ſuch Revolution, whence the ſeventh Year was called *Critical,* or the *Climacterick Year*; but ſuch Obſervations are now much out of uſe.

Septick, σηπτικὸς, is a Medicine that is very ſtyptick, or corroſive.

Septum Auris. See *Ear.*

Septum Cordis. See *Heart.*

Septum Narium. See *Naſus.*

Septum Tranſverſum. See *Diaphragm.* All which Parts are thus called from their making a Partition like a croſs Wall, which the Word imports.

Serena Gutta, the ſame as *Amauroſis,* which ſee.

Serous, from *Serum,* Whey, is uſed to ſignify the watry Part of the *Blood,* which ſee.

Serpigo, a tetterous Eruption, like the *Herpes,* or *Impetigo.*

Serratus: Several Muſcles are called by this Name from their reſemblance in Shape to a Saw. As,

Serratus Anticus Minor, ariſeth thin and fleſhy, from the ſecond, third, fourth, and fifth ſuperior Ribs; and aſcending obliquely, it is inſerted fleſhy into the *Proceſſus Coracoides* of the *Scapula,* which it draws forward. It alſo helps in Reſpiration.

Serratus Anticus Major; which comes from the whole Baſis of the *Scapula*, and is inſerted into the ſeven true Ribs, and firſt of the falſe Ribs, by ſo many diſtinct Portions repreſenting the Teeth of a Saw.

Serratus Poſticus Superior, ariſeth by a broad and thin Tendon from the two inferior Spines of the *Vertebræ* of the Neck, and the three ſuperior of the Back; and growing fleſhy, is inſerted into the ſecond, third, and fourth Ribs by ſo many diſtinct Indentations. Theſe two help to draw the Ribs upwards, and bring them to right Angles with the *Vertebræ*; and conſequently make the Cavity of the *Thorax* wider and ſhorter.

Serratus Poſticus Inferior, ariſes with a broad and thin Tendon from the three inferior Spines of the *Vertebræ* of the Back, and from the two ſuperior of the Loins; its Fibres aſcending obliquely, grow fleſhy, and are inſerted by four Indentations into the four laſt Ribs.

Seroſity. See *Serous.*

Seſamoidæa Oſſa. See *Digitus.*

Seſquialtera, is a name given to that kind of Fever by *Helmont,* which others call a *Semitertian,* or a *Hemitritæos.*

Seſſilis, is a Name given to any low, flat Tumours, or the Eruptions in the Small-Pox, when they riſe not well, and are indented at the Top.

Setaceum, a Seton, is when the Skin is taken up with a Needle, and the Wound kept open by a Skein of Silk, that Humours may vent themſelves; for the ſame purpoſes as Iſſues, tho generally with more Efficacy. Farriers call this Operation in Cattle, *Rowelling.*

Sickneſs Falling. See *Epilepſy.*

Sideration, is either ſuch a ſudden Mortification, as the common People call a *Blaſt*; or is a ſudden Depravation of Senſe, as in an Apoplexy.

Sief, the Name of an antient Form of Medicine, amongſt the *Arabians,* but now out of uſe.

Sigmoides, or *Sigmoïdales,* are Valves thus called from the *Greek Sigma,* and εἶδος, *Forma,* Shape; becauſe of their reſemblance thereunto in Figure. See *Heart.*

Sign. See *Diagnoſtick.*

Siliqua, in Botany, is the Seed-Veſſel, Husk, or Pod, of ſuch Plants as are of the leguminous kind.

Silver. See *Luna.*

Similar Bodies; ſuch are thus called us have their conſtituent Particles of the ſame kind, as to their ſenſible Qualities.

Similar Parts, are thoſe of the ſame Texture, and manner of Formation.

Simple, expreſſes any thing of the ſame kind, and not compounded of different or of many ſorts, tho agreeing in Nature.

Simple Quantities, are ſuch as have but one Sign, as $2a$, and $-2b$; whereas $a+b$, and $+d-c+b$, are compound Quantities. Theſe are uſed only in algebraical Calculations.

Sinapiſm, is a Cataplaſm made chiefly of Muſtard, to apply outwardly to any particular Part.

Sinciput, is the Fore-part of the Head. See *Cranium.*

Sine, is a right Line, drawn from one end of an Arch perpendicularly upon the Diameter drawn from the other end of that Arch; or, it is half the Chord of twice the Arch.

Singultus, the Hiccup, is a convulſive Motion of the Stomach, and Parts adjacent, particularly the Diaphragm.

Sinus, ſignifies any Cavity, and Anatomiſts variouſly apply it to many Parts of a human Body; as the

Sinus Laterales, and

Sinus Longitudinales. See *Dura Mater.*

Sinus Oſſium, are thoſe Cavities of the Bones which receive the Heads of other Bones, and ſo of many other Parts.

Siphon. See *Syringe.*

Sitis, Thirſt. See *Hunger.*

Skin. See *Cutis.*

Skull. See *Cranium.*

Sleep. See *Narcotick.*

Smelling. See *Senſation.*

Snow. Of this it hath been obſerv'd, that many Parts are of a regular Figure, for the moſt part being as it were ſo many little Rowels, or Stars of ſix Points, being perfect and tranſparent Ice; upon each of which Points are ſet other collateral Points, at the ſame Angles as the main Points themſelves: amongſt theſe there are divers other irregular, which are chiefly broken Points and Fragments of the regular ones. Others alſo by various Winds ſeem to have been thaw'd, and froze again into irregular Cluſters. So that it ſeems as if the whole Body of Snow is an infinite Maſs of Icicles irregularly figured: that is, a Cloud of Vapours being gathered into Drops, the ſaid Drops forthwith deſcend; upon which deſcent, meeting with a freezing Air as they paſs thro a colder Region, each Drop is immediately froze into an Icicle, ſhooting it ſelf forth into ſeveral Points: But ſtill continuing their Deſcent, and meeting with ſome intermitting Gales of warmer Air, or in their continual Waftage to and fro, touching upon each other, ſome are a little thaw'd, blunted, and again froze into Cluſters, or entangled ſo as to fall down in what we call Flakes. The Lightneſs of Snow, altho it is firm Ice, is owing to the Exceſs of its Surface in compariſon to the Matter contain'd under it; as Gold it ſelf may be extended in Surface till it will ride upon the leaſt Breath of Air. See *Ice* and *Freezing*.

Sol, the Sun. The Chymiſts uſe this Term for Gold, becauſe they will have that Metal to be under the Sun's Influence in a particular manner: But what ſhould have been the principal Inducements of torturing this Metal with ſo much Violence, to obtain from it ſome medicinal Virtues, is not eaſily to be gueſs'd; unleſs it was to keep up the Authority of an ill-deſerv'd Regard, and a Jealouſy that they could not be well in the common Opinion for Phyſicians, who could not do extraordinary things in their Profeſſion, with a Metal which had ſuch a prodigious Influence almoſt on every other account. Many indeed there have been, who have honeſtly oppoſed this Artifice, but the contrary ſides have a long time prevail'd, and to ſuch a degree, that this Metal it ſelf has not only been transformed into all the Shapes imaginable for medicinal Purpoſes, but even its Name has been transfer'd to do honour to, and enhance the Price of many other worthleſs Preparations that bore but any Reſemblance to its ſenſible Qualities. Hence many Tinctures of a yellow Colour, are preſently the Golden Tincture of ſomething or other. Moſt indeed acknowledge, that Gold in Subſtance, or reduced into the ſmalleſt Particles by the Hammer, as in the Leaf-Gold, is not digeſtible in the Stomach, ſo as to be tranſmitted into the Blood, and to be there of any efficacy. But there are nevertheleſs many who are confident of its doing extraordinary Matters, if reduced into a Pouder, by Amalgamation with Mercury, and by evaporating the Mercury afterwards. *Zacutus Luſitanus* is one of the ſmarteſt Pleaders on this ſide the Controverſy, againſt *Muſa*, *Picus Mirandula*, and *Platerus*; who beſides many Inſtances of its Efficacy, urges the Authority of *Avicen*, *Serapion*, *Geber*, and many of the *Arabian* Phyſicians, with thoſe of other Countries, and of later date. *Quercetan*, *Schroder*, *Zwelfer*, and *Etmuller*, with many other more modern practical Phyſicians, fell into the ſame Opinion. But which ſide ſoever is in the right, the preſent Practice rejects all Pretenſions to Medicine therefrom; tho moſt of the other Metals are in high eſteem.

Soleus, a Muſcle of the Foot, the ſame as *Plantaris*, which ſee.

Solids. The whole quantity of ſolid Matter in the Body is poſſibly no more than the meer Matter of the Nerves, fill'd, ſwell'd up, and diſtended by the nitritious Juices, as appears from the Obſervations of *Malpighi*; and the laſt Diviſions of the Solids are hardly diſtinguiſhable from Fluids.

Solidity. See *Coheſion*.

Solution. See *Diſſolution*.

Solution of Continuity, is a Term uſed by Surgeons for every Diviſion of the Parts made by Wounds or any other Cauſes.

Solutive, the ſame as *Laxative*; which ſee.

Somniferous, from *Somnus*, Sleep, and *fero*, to bring; the ſame as *Narcoticks*, *Opiates*, *&c.* which ſee. Hence alſo,

Somnolency, is any Propenſity to Sleep, or a Drowſineſs.

Sophiſts, σοφιϛαὶ, originally and ſtrictly ſignified thoſe who abounded in Knowledge and Wiſdom; but in length of Time many falſe Pretenders to thoſe Qualities debaſed the Term into Diſgrace, making it ſtand for a Cheat, or Juggler: whence,

Sophiſtication, is counterfeiting or adulterating any thing with what is not ſo good, for the ſake of unlawful Gain. This Practice unhappily obtains in all the Parts of Medicine which deal with Simples or Compounds: and in many Caſes the Cheat is carry'd on ſo artificially, as to prevent a Diſcovery even from Perſons of the moſt diſcerning Faculty.

Soporales: thus the Antients call'd the internal jugular Veins, from an Opinion of their being particularly concern'd in Sleep; but *Blancard* blames them, becauſe *Carotid*, which is given by common conſent to their correſpondent Arteries, is of the ſame Import, and founded upon the ſame Conjecture.

Soporiferous, that which occaſions Sleep, from *Sopor*, Sleep, and *fero*, to bring.

Sory, is a mineral Production not unlike the *Chalcitis*, which ſee.

Sound. This hath employ'd the Enquiries of many great Men to explicate. The greateſt of whom, Sir *Iſaac Newton*, ſaith, That it ariſes from a Propagation of the Pulſe of the Air, and that this conſiſteth not in the Motion of an *Æther*, or finer Air, but in the Agitation of the whole common Air: becauſe, by Experiment, he found that the Progreſs of Sound depended on the Denſity of the whole Air. With this agrees Monſieur *Carré*, of the Royal Academy of Sciences at *Paris*, who ſhews, That Sound, when conſider'd with relation to Body, conſiſts only in the Motion of the Air, but in ſuch a Motion as is very different from Wind. Sound is from little Vibrations or Shakings, which the Parts of ſonorous Bodies occaſion in the Air, whereas Wind conſiſts in a local Motion of the Air, without Vibrations. The Motion of the Air in Winds, will act ſtrongly on Flame, but will not affect the Ear with Sound, but on the Interpoſition of ſome Body, which may occaſion Vibration; whereas the Agitation of the Air in Sounds affects not Flame, for a lighted Candle put near a Bell which hath been ſtruck, will not have its Flame agitated by the Sound. As to the Manner and Times of its Progreſſion, Perſons have varied, by means of the Diverſity of thoſe Experiments on which they have grounded their Calculations, which is another's Province to teach. So far as *Hearing*

ing is concern'd in Sounds, ſee what hath been ſaid under that Term.

Space, if conſider'd barely in Length, between any two Beings, is the ſame Idea that we have of *Diſtance*; but if it be conſider'd in Length, Breadth, and Thickneſs, it is properly called Capacity: And when conſider'd between the Extremities of Matter, which fills the Capacity of Space with ſomething Solid, Tangible, and Movable, or with Body; it is then called Extenſion: ſo that Extenſion is an Idea belonging to Body only; but Space 'tis plain may be conſider'd without it. So that Space, in the general Signification, is the ſame thing with Diſtance, conſider'd every way, whether there be any ſolid Matter in it or not. Space therefore is either Abſolute or Relative. Abſolute Space conſider'd in its own Nature, and without regard to any thing external, always remains the ſame, and is immovable; but relative Space, is that movable Dimenſion or Meaſure of the former, which our Senſes define by its Poſitions to Bodies within it: and this the Vulgar uſe for immovable Space.

Relative Space, in Magnitude and Figure, is always the ſame with abſolute, but 'tis not neceſſary it ſhould be ſo numerically. Thus if you ſuppoſe a Ship to be indeed in abſolute Reſt, then the Places of all things within her will be the ſame abſolutely and relatively, and nothing will change its Place. But then ſuppoſe the Ship under Sail, or in Motion, and ſhe will continually paſs thro' new Parts of abſolute Space: But all things on Board conſider'd relatively, in reſpect to the Ship, may be notwithſtanding in the ſame Places, or have the ſame Situation and Poſition, in regard to one another.

Spadones, ſtrictly ſignifies all Creatures which have been caſtrated; but *Paulus Ammannus* applies the Term to thoſe who have a peculiar kind of Contraction or Convulſion in the genital Parts, in the ſame Senſe as Spaſm, σπασμὸς: whence *Erotian* enlarges it to ſignify ſpaſmodick Affections alſo alſo of other Parts; in which Latitude it is frequently met with in the Writings of *Hippocrates.*

Spagyrick Medicine, or *Spagyrical Art,* is the ſame as Chymiſtry, the Word importing to extract, or collect or gather together, becauſe it teaches how to extract, and ſeparate the purer Parts of Subſtances from mix'd Bodies: And,

Spagyriſt, is the ſame as a Chymiſt.

Sparadrap, is an antient Name for what we now call a Cerecloth.

Spaſma, or *Spaſmus,* from σπάω, *contraho,* to contract, ſignifies any convulſive Motion, becauſe it contracts or pulls the Parts it affects. Hence,

Spaſmodick Medicines, are ſuch as are good againſt Convulſions: and,

Spaſmology, from *Spaſmus,* and λέγω, *dico,* to diſcourſe, is any Treatiſe of Convulſions.

Spatula, is an Inſtrument uſed by Apothecaries and Surgeons, wherewith they ſpread their Plaiſters, Unguents, *&c.* or ſtir their Medicines together.

Species, is a Term uſed variouſly, in Logick and Metaphyſicks, for an Idea that relates to ſome other more general one, and has under it ſelf only Individuals; In Algebra, for thoſe Symbols or Marks which repreſent the Quantities in any Equation, or Demonſtration: In Viſion, for ſuch ſuperficial and wonderfully fine Images of Bodies, as are producible by Light, and which by that are delineated upon the Bottom of our Eyes: And in Medicine, for thoſe ſimple Ingredients, out of which other more compound are made. But common Cuſtom without any juſt Propriety, has in Pharmacy, affixed it to ſome Aromatick and Cathartick Pouders, which are themſelves compounded of many things.

Specifick Gravity, is the appropriate and peculiar Gravity or Weight, which any Species of natural Bodies have, and by which they are plainly diſtinguiſhable from all other Bodies of different kinds. By ſome 'tis not improperly call'd relative Gravity, to diſtinguiſh it from abſolute Gravity, which increaſes in Proportion to the Bigneſs of the Body weighed. Thus, if any Body weigh a Pound, one as big again will weigh two Pounds: And let the Bodies be of what Nature or Degree of Specifick Gravity ſoever, a Pound of one will be as much as a Pound of the other, abſolutely conſider'd: Thus, as is commonly ſaid, a Pound of Feathers is as heavy as a Pound of Lead. But if you conſider Lead and Feathers relatively, the Specifick Gravity of the former, will be much greater than that of the latter; or Lead, Bulk for Bulk, will be much heavier than Feathers; and Gold heavier than Lead, *&c.*

An Eſtimate of the Specifick Gravity of Solids.

	The Weight.		*Diminution of Weight.*	*Proport. Gravity.*
	In Air.	*In Water.*		
Of Crude Mercury	gr. 60.	gr. $55\frac{3}{4}$	gr. $4\frac{1}{4}$	14
Lead		$54\frac{1}{4}$	$5\frac{3}{4}$	$11\frac{2}{5}$
Copper		53	7	$8\frac{1}{2}$
Braſs		id.		
Crude Tin		id.		
Regulus of Antimony		52	8	$7\frac{1}{2}$
Reg. of Steel and Copper		id.		
Block-Tin		id.		
Iron		$51\frac{1}{8}$	$8\frac{5}{8}$	7 almoſt
Cinnabar of Antimon.		51	9	$6\frac{4}{9}$
Litharge of Silver		id.		
—— of Gold		$50\frac{1}{2}$	$9\frac{1}{2}$	6
Silver Sixpence		49	11	$5\frac{5}{12}$
Calcined Copper		49	11	$5\frac{5}{12}$
Glaſs of Antimon.		48	12	5
Lapis Calamin.		id.		
—— Tutty		47	13	$4\frac{8}{15}$
Crocus Metal.		$46\frac{1}{2}$	$13\frac{1}{2}$	$4\frac{1}{2}$
Crude Antim.		45	15	4
Steel prep. with Sulphur		41	19	$3\frac{3}{19}$

	The Weight.			
	In Air.	In Water.	Diminution of Weight.	Proport. Gravity.
White Lead	gr. 60.	gr. 41	19	$3\frac{3}{19}$
Green Glaſs		39	21	$2\frac{18}{22}$
Red Coral		id.		
Flint		38.	22	$2\frac{8}{11}$
Bole Armon.		id.		
Lapis Judaicus		$38\frac{1}{9}$	$21\frac{8}{9}$	$2\frac{1}{2}$
Flint Glaſs		id.		
Bone of Sheep juſt killed		33	27	$2\frac{6}{27}$
Filings of Steel		30	30	2
Terra Lemnia		id.		
Ivory		29	31	$1\frac{25}{36}$
Hartſhorn		28	32	$1\frac{7}{8}$
Mineral Sulphur		id.		
Crude Tartar		27	33	$1\frac{22}{33}$
Venice-Glaſs		$26\frac{1}{2}$	$33\frac{1}{2}$	$1\frac{53}{67}$
Ruſt of Braſs		25	35	$1\frac{5}{7}$
Burnt Lead		24	36	$1\frac{6}{9}$
Gum Arabick		18	42	$1\frac{9}{21}$
Opium		16	44	$1\frac{4}{12}$
Lignum Guaiacum		15	45	$1\frac{1}{3}$
Gum Tragacanth		d.		
Myrrh		12	48	$1\frac{1}{4}$
Cortex Guaiaci		id.		
Gum Guaiacum		11	49	$1\frac{11}{49}$
Reſin of Scammony		10	50	$1\frac{1}{5}$
Lignum Nephritick		id.		
Iſinglaſs		6	54	$1\frac{1}{9}$
China-Root		4	56	$1\frac{1}{14}$
Frankincenſe		id.		
Gall		2	58	$1\frac{1}{29}$
Gentian		leſs 15		$\frac{60}{75}$
Peruvian Bark		leſs $16\frac{1}{2}$		$\frac{120}{153}$
Oak		leſs 26		$\frac{60}{86}$
Fir		leſs 48		$\frac{60}{108}$

The Weight of Salts in Spirit of Wine were found to be as follows.

	The Weight.		*Abatements.*	*Proport.*
	In Air.	*In Sp. Wine.*	*of Weight.*	
Of Crude Mercury	gr. 60.	gr. $57\frac{1}{3}$	gr. $2\frac{1}{3}$	17 near
Mercurius Dulcis		56	4	15
Panacea Rubr.		55	5	12
Merc. Dul. 3d time ſub.		id.		
——— 4th time ſub.		54	6	10
Turbith Mineral		id.		
Corroſive Sublimat.		$52\frac{1}{4}$	$7\frac{1}{2}$	8 alm.
Sugar of Lead		42	18	$3\frac{6}{18}$
Fix'd Salt of Nitre		id.		
Magiſtery of Coral		39	21	$2\frac{18}{21}$
Sympathetick Powder		id.		
Tartar Vitriolized		$38\frac{1}{2}$	$21\frac{1}{2}$	$2\frac{34}{43}$
Glauber's Sal Mirabil.		38	22	$2\frac{8}{11}$
Emetick Tartar		$37\frac{1}{2}$	$22\frac{1}{2}$	
Sal Guaiaci		37	23	$2\frac{14}{23}$
——— *Prunella*		id.		
——— *Polychreſton*		id.		
——— *Enixum*		id.		
Cream of Tartar		34	26	$3\frac{4}{13}$
White Vitriol		id.		
Salt of Steel		33	27	$2\frac{6}{27}$
Green Vitriol		32		
Red Chalcanthum		id.		
Salt of white Vitriol		id.		
Nitre		id.		
Volatile Salt of Hartſhorn		27	33	$1\frac{27}{33}$
Ens Martis once ſubl.		26	34	$1\frac{13}{17}$
Sal Armoniac purify'd		id.		
Ens Martis 3d time ſub.		22	38	$1\frac{11}{19}$

An Eſtimate of the Specifick Gravity of Liquids.

The Weight of a Piece of Lead in Air, Gr. 455.

The ſame Piece of Lead.

	Weight.	*Diminution. of Weight.*	*Proport.*
In Oil of Vitriol ——	gr. 379	gr. 76	$5\frac{75}{76}$
Hermetick Spirit of Nitre	383	72	$6\frac{23}{72}$
Sp. Nitr. with Oil Vitr.	396	59	$7\frac{49}{59}$
——of common Nitre	397	58	$7\frac{23}{29}$
——Nitre Bezoartick	id.		
Double *Aqua fortis* ——	400	55	$8\frac{1}{3}$
Spirit of Vitriol ——	406	49	$9\frac{16}{49}$
Sp. Salt with Oil Vit.——	408	47	$9\frac{34}{47}$
Solut.of common Sal ℥2 with ℥ 6 of com.Wat.	id.		
Sp. of Sal. Armo. Succ.	409	46	$9\frac{41}{46}$
——with Pot-Aſhes ——	id.		
Simple *Aqua fortis* ——	410	45	$10\frac{1}{9}$
Solution of Sal Enix ℥ 1 in Water ℥ 5	id.		
A Decoction of Gentian	$410\frac{1}{2}$	$44\frac{1}{2}$	$10\frac{20}{89}$
Spirit of Tartar——	411	44	$10\frac{15}{44}$
A Decoct. of Snakeweed	id.		
Sp. of Hartsh. not rectif.	id.		
A Decoct. of Sarſaparilla	412	43	$10\frac{25}{43}$
—— of China-Rooot	id.		
Spirit of common Salt	$412\frac{1}{2}$	$42\frac{1}{2}$	$10\frac{5}{7}$
A Decoction of Arum	id.		
A Solution of Alum ℥ 1 ʒ 1. in Water ℥ 6	413	42	$10\frac{5}{8}$
Syden. Liqu. Laudan. —	id.		
Liqu. Panacea of Opium	id.		
Decoct. of the Peru Bark	id.		
——of Pomegranats	id.		
In a Solut. of Sal Armo. pur. ℥. 1. and white Vit. ℥ 1. in Water ℥ 5.	id.		
Urine ——	$413\frac{1}{2}$	$41\frac{1}{2}$	$10\frac{80}{83}$
Sweet Spirit of Nitre	414	41	$11\frac{4}{41}$
Common Water ——	id.		
A Tinct. Alo. with Water	id.		
A Decoct of red Sanders	id.		
Diſtill'd Vinegar ——	$414\frac{1}{4}$	$40\frac{3}{4}$	
Mint Rue Savin Water Diſtill.	415	40	$11\frac{3}{8}$

		Weight.	Diminution of Weight.	Proport.
The ſame Piece of Lead.	Vinegar	gr. $415\frac{1}{4}$	$19\frac{3}{4}$	
	Milk	$415\frac{1}{2}$	$39\frac{1}{2}$	
	A Decoction of Savin	id.		
	An Infuſ. of Horehound	416	39	$11\frac{26}{39}$
	——of Mint	id.		
	——of Wormwood	id.		
	Elix. Pro. with Sal Vol.	$416\frac{1}{2}$	$38\frac{1}{2}$	
	An Infuſion of Tea	id.		
	Spirit of Saffron	417	38	$11\frac{37}{38}$
	Spirit of Sal Armo. with quick Lime	$418\frac{1}{2}$	$36\frac{1}{2}$	
	Sweet Spirit of Salt	id.		
	Tincture of Caſtor	419	36	$12\frac{7}{12}$
	Sp. of Wine with Camph.	id.		
	Mynſicht's Tinct. Steel	420	35	13
	Tinct. Sulph. with Spirit of Turpentine	id.		
	Oil of Turnips	id.		
	Tincture of Coral	421	34	$13\frac{13}{34}$
	Spirit of Wine	$421\frac{1}{2}$	$33\frac{1}{2}$	$13\frac{39}{67}$
	Oil of Turpentine	$422\frac{1}{2}$	$32\frac{1}{2}$	
	Spirit of Wine rectify'd	423	32	$14\frac{7}{32}$
	Boil'd Water	424	31	$14\frac{21}{31}$

The Numbers in the laſt Column ſhew the Proportion of the ſpecifick Gravity of Fluids, if compared reciprocally: For as 11 $\frac{37}{38}$ is to 5 $\frac{75}{78}$, ſo is the Gravity of Oil of Vitriol to the Gravity of Spirit of Saffron, *viz.* about double.

The Scales for theſe Purpoſes are ingeniouſly contrived and ſold by Mr. *Hauksbee* in *Crane-Court* in *Fleet-ſtreet.*

Specifick Medicines, is a Term heretofore much in uſe for ſuch whoſe Operations could not be accounted for: but a more natural way of reaſoning hath brought a great many of thoſe things to light which firſt occaſioned the Uſe of this Refuge; and convinces us that all others that yet remain obſcure, muſt operate by their mechanical Properties, altho perhaps the Fineneſs of their Parts may elude the Senſes, and conſequently all Certainty as to the particular Manner of their Agency. See *Diſpenſatory, pag.* 4.

Specillum, an Inſtrument with which Surgeons ſearch Wounds, in the manner of a Probe.

Speculation, is ſtrictly what we contemplate by the Mediation of Viſion; but is often figuratively uſed for thoſe Operations in the Mind as require no ſuch Helps, more properly by Mr. *Locke* called Reflection, as the other belongs to Senſation; and hence Speculation is by the Inſtitution Writers made to expreſs that Part of Medicine which contemplates, and directs the Rules for Practice from Principles of Theory and Reaſon.

Speculum Ani, is an Inſtrument with which Surgeons dilate the Fundament to extract Bones, or any thing that may be there lodged. And,

Speculum Matricis, is an Inſtrument to do the ſame Office with to Matter obſtructed in the Womb; or to aſſiſt in any manual Operations thereunto.

Speculum Oculi, and

Speculum Oris, are for the ſame purpoſe, to inſpect the Eye or Mouth with.

Spelter, the ſame as *Zinck,* which ſee.

Sperma. See *Semen.*

Sperma Ceti, Parmaſitty. The Antients were great Strangers to this Drug; and *Schroder* himſelf ſeems very much unacquainted with it, not well knowing whether to make it an animal or a mineral Subſtance, tho he places it among the Minerals, and calls it *Aliud Genus Bituminis,* his preceding Articles being about ſuch Subſtances. It is now almoſt univerſally known, that a particular ſort of Whale affords the Oil whence this is made; and that it is very improperly called *Sperma,* becauſe it is only the Oil that comes from the Head which it can be made from. I ſay made from, becauſe it is by ſome peculiar Management, which is in the knowledge only of very few, mightily changed from what it is naturally, before it comes to be fit for uſe in the Shops; the Oil it ſelf being very brown and rank. The peculiar Property of it is to ſhoot into Flakes, not much unlike the Cryſtallization of Salts, after it has ſtood a due time to reſt in a proper Veſſel. But in this ſtate 'tis yellow, and has a certain rankneſs, from which 'tis in great meaſure freed, and render'd white, by ſqueezing it between warm metalline Plates in a Preſs; and afterwards expoſing the remainder to the open Air, which ſtill blanches it farther, and takes away its offenſive Scent, till at length it becomes perfectly pure, inodorous, flaky, ſmooth, white, and in ſome meaſure tranſparent. That Fiſh which about twenty Years ſince was taken in the *Thames,* and brought aſhore at *Blackwall,* was diſcovered accidentally to be the true Parmaſitty Whale. A Perſon buying ſome quantity of the Oil which a poor Body had ſcummed off the Water, as it melted from it, for a ſmall Value, ſet it in a place out of the way, until ſome uſe it might be thought fit for ſhould happen; but after a long time looking upon it, the Owner found it hardened into a Cake, or a ſolid Conſiſtence, which a Perſon skill'd in the Manufacture hearing of, bought it, and procured from it as good a Parmaſitty as any yet met with in *London.*

Spermatick Parts, are thoſe concerned in ſecreting the Seed. See *Generation.* And,

Spermatocele, from *Sperma,* Seed, and κήλη, *Tumor,* a Swelling; is a Rupture occaſioned by a Diſtenſion of the ſeminal Veſſels.

Sphacelus, from σφάττω, *interficio,* to kill; becauſe it is looked upon to be a fatal Sign, and is actually a Mortification (which ſee) upon the Part affected.

Sphenoides, from σφὴν, *Cuneus,* a Wedge, and εἶδος, *Forma,* Shape, is the ſame as *Cuneiforme Os.* See *Cranium.*

Sphenopharyngæus, and

Sphenopalatinus, and

Sphenopterygopalatinus, are all Names for the ſame Muſcles, deſcribed under *Pteriſtaphylini;* which ſee.

Sphere, is any round Ball, whoſe right Lines from the Center to the *Periphery* are equal: and this is common to all Bodies of this Figure, that they are to one another as the Cubes of their Diameters; whence

Spheriſticos, σφαιριςικὸς, is one ſo called by *Galen,* who exerciſes at that Game with Balls, which we commonly call Racket, for their Health; and hence the Place ſo made uſe of was called the *Spheriſterium.*

Spheroid, from Sphere, and εἶδος, *Forma,* Shape; is a ſolid Figure made by the Rotation of a Semi-Ellipſis about its Axis, and is always equal to $\frac{2}{3}$ of its circumſcribing Cylinder; making a kind of oblong Sphere.

Spheroides, is by Anatomiſts applied to Parts which approach near to that of a Sphere in Shape.

Sphincter, from σφίγγω, *conſtringo,* to bind together; is aſcribed to ſuch Muſcles as draw up, and keep ſhut the Parts; as the

Sphincter Veſicæ. See *Bladder.* And,

Sphincter Labiorum. See *Orbicularis.* And,

Sphincter Ani. See *Inteſtines.* And ſo of other Places of like Formation.

Sphinx, was the Name of a fictitious Being ſaid to puzzle *OEdipus* the *Theban* with Riddles: whence ſome have juſtly enough called the ſtrange Notions of the Chymiſts *Sphingis Ænigmata.*

Spica, ſignifies properly the Tops of any Herbs, but is chiefly uſed for the Lavender kind; hence,

Spicata, is a Term given to ſome Compoſitions that take in ſuch Ingredients, for thoſe of principal Efficacy.

Spine, is uſed in the ſame ſenſe as *Acantha,* and therefore is ſometimes uſed for ſuch Parts as ſhoot out ſharp, like a Thorn; particularly the

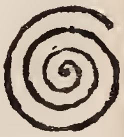
Spine, or Back-bone. See *Vertebræ.*

Spina Ventoſa, is uſed for a Caries, or Rottenneſs of the Bone from ſharp Humours.

Spinal Marrow. See *Marrow.*

Spinati Muſculi, are two Muſcles on the Sides of the Neck, ariſing from the five ſuperior Proceſſes of the *Vertebræ* of the *Thorax,* and inferior of the Neck; and in their Aſcent they become more fleſhy, and are largely inſerted into the inferior Part of the *Vertebræ* of the Neck laterally. They draw the Neck backwards.

Spiral Line, is generated by a Rotation round any Center, but continually receding further from it: as in the Figure.



Spiracula, are the ſame as Pores, or any breathing Paſſages.

Spirit, as a Principle in Body, ſee *Principle*; in an animal Body, is no other than the nervous Fluid, and is a fine ſoft Juice ſeparated from the Blood, preſerving a due Moiſture and Elaſticity. See *Fibre.*

Splanchnicks, from σπλαγχνεύω, *Viſcera tractare,* to operate upon the Bowels; are ſuch Medicines as are ſuppoſed to cleanſe the Bowels and *Viſcera.*

Splen, the Spleen. The Spleen is ſituated in the left *Hypochondrium,* under the *Diaphragma,* between the Ribs and the Stomach, above the left Kidney. It is tied to the *Peritonæum,* to the Midriff, and to the *Omentum.* It is of a blueiſh or leaden Colour, of an oblong Figure, thick at the Edges, and not thin, as the Liver. It has two Membranes. The external comes from the *Peritonæum.* The internal Membrane is finer and thinner than the external: For if you blow into the Splenick Artery, the Air ſhall paſs thro' the one, but not the other. Its Fibres are not irregularly woven, as thoſe of other Membranes ſeem be; but they come from innumerable Points, as Rays from ſo many Centres, and the Fibres of one Point are regularly woven with the Fibres of the Points ſurrounding it. It receives Veins, Nerves and Arteries from thoſe that enter the Spleen. The Subſtance of the Spleen is not only kept together by its two Membranes, but alſo by innumerable Fibres which come from the Points of the internal Membrane, and are inſerted in the Points of the oppoſite ſide of the ſame Membrane; the Expanſion of the Extremity of theſe Fibres ſeems to compoſe the internal Membrane. The Spleen is compoſed of an Infinity of Membranes, which form little Cells and Cavities of different Figures and Bigneſs, which communicate with one another, and which are always full of Blood. At the Extremities of the Blood-Veſſels in the Spleens of Sheep, we find ſeveral ſmall, white, and ſoft Specks, which *Malpighi* calls Glands. The Spleen has Arteries from the *Cœliack*, whoſe Capillary Branches make frequent Inoſculations upon the Membranes of the Cells. Its Veins, whoſe Extremities communicate with the Cavities of the Cells, as they come out of the Spleen, unite and make the *Ramus Splenicus* of the *Vena Portæ*, which carries the Blood from the Spleen to the Liver. Theſe, with its Nerves, which are conſiderable from the *Plexus Splenicus*, are equally diſtributed thro' the whole Subſtance of the Spleen, being all included in a common *Capſula*. There are likewiſe a few Lymphatick Veſſels which ariſe from the Spleen, and diſcharge them into the Lumbary Glands.

The Spleen being always full of a dark-coloured-Blood, was by the Antients thought to be the Receptacle of the *Atra Bilis*, a Humour no where to be found. And all that has been ſaid about its Uſe by the Moderns, has been to little ſatisfaction, till Dr. *Keil* taught us thus to reaſon thereupon. We muſt conſider that the Bile is compoſed of Particles, which ſlowly combine and unite together, and that by reaſon of the Vicinity of the Liver to the Heart, and of the ſwift Motion of the Blood thro' the *Aorta*, theſe Particles could not in ſo ſmall a time, and with ſo great a Velocity, have been united together, had not the Blood been brought thro' the Coats of the Stomach, Inteſtines, and *Omentum*, by the Branches of the *Vena Portæ* to the Liver. But becauſe all theſe Parts were not ſufficient to receive all the Blood which was neceſſary to be ſent to the Liver, therefore Nature framed the Spleen, into whoſe Cavities the Blood being poured from a ſmall Artery, moves at leaſt as ſlowly as any that paſſes otherwiſe to the Liver; by which means the Particles which compoſe the Bile in the Blood which paſſes thro' the *Ramus Splenicus*, by a ſo long and ſlow Circulation, have more Chances for uniting them, which otherwiſe they could not have had, had they been carried by the Branches of the *Cœliack* Artery directly to the Liver; and conſequently without the Spleen, ſuch a Quantity of Bile as is now ſecerned, that is, as Nature requires, could not have been ſecerned by the Liver. And this he takes to be the true Uſe of the Spleen.

Spleneticks, and

Splenica, are Medicines againſt Diſtempers of the Spleen.

Splenii Muſculi, alſo from their Shape, called *Triangulares*, are Muſcles that ariſe from the four upper Spines of the *Vertebræ* of the Back, and from the two lower of the Neck, and aſcending obliquely, adhere to the upper tranſverſe Proceſſes of the *Vertebræ* of the Neck, and are inſerted into the upper part of the *Occiput*. They pull the Head backwards to one Side.

Spondylus, σπόνδυλος, from *Sponda*, a Bed: ſome have thought fit to call the Spine, or Back-Bone thus, from the Shape and Fitneſs of the *Vertebræ*, to move every way upon one another.

Spongioſum Os, and

Spongoides, from *Spongia*, a Spunge, and εἶδος, *Forma*, Shape, is the ſame as *Os Cribriforme*, becauſe it is hollow and porous like a Spunge or Sieve.

Sponſus: what the proper Signification of this is every one knows, but the Chymiſts have given it to *Mercury*, as *Maritus* to Sulphur, to expreſs their fitneſs to join, or be joined with, one another.

Sporadick, is uſed for ſuch Diſeaſes as reign in the ſame Place and Time.

Springy. See *Elaſtick*.

Spuma, ſtrictly ſignifies Froth of any kind: whence ſome phyſical Writers in a figurative ſenſe apply it variouſly; either to the Humours or Excrements of an human Body, as they happen to partake of this Quality. The Chymiſts likewiſe according to Cuſtom uſe it in a very whimſical manner for many things, as the *Spuma Duorum Draconum* is the *Butyrum Antimonii*; Mercury and Antimony, of which it is made, with them being the two Dragons.

Spurious, are ſuch Diſeaſes as in ſome Symptoms cannot be brought under any diſtinct Head, and therefore joined with the name of ſome with which they moſt agree, and which are therefore often called alſo baſtard; as a baſtard Pleuriſy, a baſtard Quinſy, and the like.

Sputum, expreſſes every thing that is brought up by Spitting, different from the *Saliva*, which only comes thro' thoſe Ducts that take their Names from it. But from ſome Reſemblance hereunto the Chymiſts will alſo have other Things thus called; as Litharge of Silver or Gold, *Sputum Lunæ, vel Solis.*

Squammous Suture, from *Squamma*, a Scale; is ſuch a Suture where the Bones lie over one another like Scales. See *Suture.*

Squilinum; ſome have fancy'd thus to call the *Fimus Equinus*, Horſe-Dung, which is often preſcribed in pleuritick Affections, and has been proved by repeated Experience a more excellent Remedy than others of the ſame Intention, tho much more coſtly and hard to obtain.

Squinzy, is the ſame as *Angina*, and is often mortal, becauſe it ſhuts exactly the Chink of the *Larynx*, if the Muſcles thereof are much inflamed; wherefore *Bronchotomy* in ſuch Caſes is abſolutely neceſſary, which tho rarely practiſed, yet may be ſafely uſed.

Stacte, ſignifies that kind of Myrrh which diſtills or falls in drops from the Tree. 'Tis alſo uſed by ſome Writers for a more liquid kind of Amber, than what is commonly met with in the Shops; whence in *Scribonius Largus*, *Ægineta*, and ſome others, we meet with a *Collyrium*, and ſeveral other Forms wherein this was the chief Ingredient,

ent, diſtinguiſhed by the name of *Stactica.*

Stamina, are the Solids of a human Body; and in Botany thoſe little fine Threds or Capillaments, which grow up within the Flowers of Plants encompaſſing round the Style, and on which the Apices grow at their Extremities: whence Botaniſts call that a

Stamineous Flower, which is ſo far imperfect as to want thoſe colour'd Leaves which are called *Petala,* and conſiſts only of the *Stylus* and the *Stamina.* And ſuch Plants as do bear theſe *Stamineous Flowers,* Mr. *Ray* makes to conſtitute a large Genus of Plants, which he calls *Herbæ flore imperfecto ſive apetalo ſtamineove.* And theſe he divides into ſuch as, 1. Have their Fruit or Seed totally divided from the Flower; and theſe are ſuch Plants as are ſaid to be of *different Sexes:* The reaſon of which is, that from the ſame Seed ſome Plant ſhall ariſe with Flowers and no Fruit, and others with Fruit and no Flowers: As *Hops, Hemp, ſtinging Nettles, Spinage, Cynocrambe, Mercurialis,* and *Phyllon.* 2. Such as have their Fruit only a little disjoin'd from their Flowers; as the *Ambroſia, Bardana minor, Ricinus,* and the *Heliotropium Tricoccon.* 3. Such as have their Fruit immediately contiguous, or adhering to their Flower: And the Seed of theſe is either, 1. Triangular: And of this ſort, ſome are lucid and ſhining, as the *Lapathum, Rhabarbarum,* and *Biſtorta,* to which alſo may be reckoned the *Perſicaria.* Others are rough, and not ſhining; as the *Helleborus Albus, Fagopyrum, Convolvulus niger,* and the *Polygonum.* 2. Such as have a roundiſh Seed a little flatted or compreſſed, or of any other Figure but the former *Triquetrous* or Triangular one. And theſe have their Flower, or the Calyx of the Flower adhering to the Bottom or Baſis of the Seed or Fruit; as the *Potamogiton, Blitum Sylveſtre, Parietaria, Atriplex, Blitum Sativum, Amuranthes Hoclocerieus,* and the *Saxifraga Aurea.* 3. Such whoſe Flowers adhere to the top or uppermoſt of the Seed; as the *Beta, Aſarum, Alchimilla.* And to theſe kind of Plants, Mr. *Ray* reduces alſo the *Kaligeniculatum Sedum fruticoſum,* the *Scoparia,* or *Belvidere* of the *Italians.*

Stannum, Tin, whence Lead is alſo made; and hence *Stannaries* are thoſe Works to refine Tin from the Droſs wherewith it is naturally produced.

Staphis, ςαφὶς, is ſtrictly a Grape, or a bunch of Grapes; whence from their Likeneſs thereunto it is applied to many other Things, eſpecially the glandulous Parts of the Body, whether natural or diſtempered: hence alſo,

Staphyle, ςαφυλὴ, and

Staphyloma, ςαφύλωμα, are Names given to ſome of thoſe Parts when inflamed or ſwelled.

Stapes. See *Ear.*

Stapis Muſculus, or *Muſculus Stapidis,* is a Muſcle of the Eye-Brows.

Staticks, is a Species of Mechanicks converſant about Weights, and ſhewing the Properties of Gravity, Levity, or Equilibrium of Bodies. When it is reſtrained to Fluids, it is called Hydroſtaticks, which ſee.

Status Morbi, the ſame as *Acme;* which ſee.

Steatoma, from ςέαρ, *Sevum,* Suet; is a Swelling conſiſting of a Matter much like Suet, ſoft, without pain, contained in a *Cyſtis,* and eaſily turned out upon Inciſion.

Steel. See *Mars,*

Stegnoſis, from ςέγω, *conſtipo*, to fix or harden, is an Obſtruction of the Pores; and

Stegnoticks, are therefore the ſame as Aſtringents; which ſee.

Stella, a Star, by the Chymiſts, is very odly applied to many things, as *Stella Occidens*, to the Sal Ammoniac; *Stella Terræ*, to Talk, *&c.* from ſome Reſemblances to a Star upon them.

Stenos, ςενὸς, ſignifies any thing narrow or ſtrait: whence,

Stenothoraces, ςενοθώρακες, are thoſe who have narrow Cheſts, and on that account are liable to phthiſical Affections; and ſo of many others from the ſame Foundation.

Sterility, Barrenneſs, ariſes from various Cauſes, and is as variouſly to be remedied according to the Influence of ſuch Cauſes.

Sternohyoides. See *Lingua*.

Sternothyroides. See *Larynx*, and *Lingua*.

Sternum, the Breaſt-Bone, is ſituated in the middle of the Breaſt; it is compoſed of ſeven or eight Bones in Infants, which at firſt are Cartilaginous, but which harden and unite into three Bones after they are ſeven Years old: the Subſtance of theſe Bones is not ſolid, but ſomewhat ſpongious. The firſt and uppermoſt Bone is the biggeſt and largeſt; it is uneven and rough on its outſide, but ſmoother on its inſide, where it has a ſhallow Furrow which gives way for the deſcent of the Wind-pipe. It has a *Sinus* lined with a Cartilage on each ſide of its upper end, wherein it receives the Heads of the *Claviculæ*. The ſecond is longer and narrower than the firſt, and on its ſides there are ſeveral *Sinus's*, in which the cartilaginous Ends of the Ribs are received. The third is ſhorter, but broader than the ſecond; it receives into the lateral *Sinus's* the Extremities of the laſt true Ribs; it terminates in a Cartilage which hardens ſometimes into a Bone, call'd *Cartilago Xiphoides*, or *Enſiformis*, becauſe it is broad at its upper end, where it joins the third Bone, and grows narrower to its Extremity, where it is ſometimes forked; and ſometimes it bends inwards, compreſſes the upper Orifice of the Stomach, and cauſes a great Pain and Vomiting. The uſe of the *Sternum* is to defend the Heart, and to receive the Extremities of the true Ribs.

Sternutation, Sneezing, is a convulſive ſhaking of the Nerves and Muſcles, firſt occaſion'd by an Irritation of thoſe in the Noſtrils: Hence,

Sternutatories, are Medicines which procure Sneezing.

Stibium, is an antient name for Antimony, but now ſeldom uſed.

Stigmata, are particular Marks in the Face or other Parts of the Body, commonly called *Moles*, and whence ſome Enthuſiaſts and Impoſtors pretend to foretel many future Events as to the Fortunes of ſuch Perſons.

Stimulate, is a Property in angular or ſharp Bodies, whereby they cauſe Vibrations and Inflexions of the Fibres, and a greater derivation of nervous Fluid into the Part affected.

Stillatitious, is any thing procured by Diſtillation.

Stomach, *Ventriculus*, or Γάςηρ, lies immediately under the Midriff; the Liver covers a part of its right ſide, the Spleen touches it on the left ſide, and the *Colon* at its Bottom, to which alſo the Cawl is tied. Its Figure reſembles a Bag-pipe, being long, large, wide, and pretty round at the Bottom, but ſhorter and leſs convex on its upper part, where it has two Orifices, one at each end, which are ſomewhat higher than the middle between them. The left Orifice is called καρδία, to which the *OEſophagus* is join'd. By this Orifice the Aliments enter the Stomach, where being digeſted, they aſcend obliquely to the *Pylorus*, or right Orifice, which is united to the firſt of the Inteſtines. At this Orifice the Tunicles of the Stomach are much thicker than they are any where elſe; and the inmoſt has a thick and ſtrong Duplicature in form of a Ring, which ſerves as a Valve to the *Pylorus* when it contracts and ſhuts. The Stomach is made of four Membranes or Coats. The firſt and inmoſt is made of ſhort Fibres which ſtand perpendicularly upon the Fibres of the next Coat: they are to be ſeen plainly towards the *Pylorus*. When the Stomach is diſtended with Meat, theſe Fibres become thick and ſhort. Whilſt they endeavour to reſtore themſelves by their natural Elaſticity, they contract the Cavity of the Stomach, for the Attrition and Expulſion of the Aliments. This Coat is much larger than the reſt, being full of Plaits and Wrinkles, and chiefly about the *Pylorus*: Theſe Plaits retard the Chyle, that it run not out of the Stomach before it be ſufficiently digeſted. In this Coat there are alſo a great number of ſmall Glands which ſeparate a Liquor, which beſmears all the Cavity of the Stomach, and helps the Concoction of the Aliments: therefore this Coat is called *Tunica Glanduloſa*. The ſecond is much finer and thinner; it is altogether nervous; it is of an exquiſite Senſe, and it's call'd *Nervoſa*. The third is Muſcular, being made of ſtrait and circular Fibres; the ſtrait run upon the upper part of the Stomach, between its ſuperior and inferior Orifices; and the circular run obliquely from the upper part of the Stomach to the Bottom. Of theſe the innermoſt deſcend towards the right ſide, and the outermoſt towards the left, ſo that by their Action both ends of the Stomach are drawn towards its middle, and the whole is equally contracted; by their Contraction and continual Motion, the Attrition and Digeſtion of the Aliments is in a great meaſure performed. The fourth Tunicle is common, it comes from the *Peritonæum*. The Stomach ſends Veins to the *Porta, viz.* the *Gaſtrica, Pylorica*, and *Vas Breve*, and Branches to the *Gaſtro-epiplois dextra & ſiniſtra*, which are accompanied with Branches of the *Arteria Cœliaca*, all which lie immediately under the fourth Coat of the Stomach. The eighth Pair of Nerves, or *Par Vagum*, gives two conſiderable Branches to the Stomach, which deſcending by the ſides of the Gullet, divide each into two Branches, the external and internal. The two external Branches unite in one, and the internal do ſo likewiſe; both which piercing the Midriff, form, by a great number of ſmall Twigs, upon the upper Orifice of the Stomach, a *Plexus*: and then the internal Branch ſpreads it ſelf down to the Bottom of the Stomach; and the external Branch ſpreads it ſelf upon the inſide, about the upper Orifice of the Stomach. This great number of Nerves, which is about the upper Orifice, renders it very ſenſible; and from them alſo proceeds the great Sympathy betwixt the Stomach, Head, and Heart: upon which account *Van Helmont* thought, that the Soul had its Seat in the upper Orifice of the Stomach. The *Plexus Nervoſi* of the *Hypo-*

chondria and *Meſenterium* give ſeveral Branches to the Bottom of the Stomach; therefore in Hyſterick and Hypochondriack Paſſions the Stomach is alſo affected. See *Digeſtion*. Hence,

Stomachicks, are ſuch Medicines as are ſerviceable to the Stomach.

Stone, is an Aggregate of many of the harder Parts of the Urine, pent up by reaſon of the Straitneſs of the Ducts.

Strangury, is any Difficulty of Urine, from whatſoever Cauſe, attended with a continual involuntary Dripping.

Strata, are the ſame as Layers; as,

Stratum ſuper Stratum, are Rows over one another; and

Stratification, a Term alſo uſed by the Chymiſts, for the ſame Purpoſe.

Strength. There is no need of explaining this Term in all the reſpects it is uſed, unleſs as it concerns the animal OEconomy, wherein the Strengths of different Animals of the ſame Species or of the ſame Animal at different times, are in a triplicate Proportion of the Quantities of the Maſs of their Blood. And the whole Strength of an Animal, is the Force of all the Muſcles taken together; therefore whatſoever encreaſeth Strength, encreaſeth the Force of all the Muſcles, and of thoſe ſerving Digeſtion as well as others. Yet notwithſtanding the Truth of this, the Quantity of Blood may be encreaſed in ſuch Circumſtances, as to abate the Strength. The *Æquilibrium* between the Blood and Veſſels being deſtroyed, wonderfully leſſens the Strength. The ſudden Suppreſſion of Perſpiration, tho it increaſe the Quantity of the Blood, as it muſt conſiderably do by *Sanctorius*'s Calculation, yet it leſſens the Strength, becauſe the retained Matter being what ought to be evacuated, ſo alters the Texture of the Blood, as to make it unfit for muſcular Motion. Suppoſe the encreaſed Quantity to be joined by an extraordinary Viſcidity, the Quantity of ſmall ſeparable Parts decreaſing, as the Viſcidity encreaſes, the Quantity of animal Spirits, ſeparated in the Brain, will be leſs; and the Tenſity of the Fibres being, in proportion to the animal Spirits, forced into them, they will not be able to counterpoiſe the great weight of the Blood, and ſo the Strength will be diminiſhed. *Bellini* proves, that if the Blood be ſo vitiated, as to increaſe or diminiſh Strength, 'tis the ſame as if the Blood was in a natural State, but its Quantity encreaſed or diminiſhed in the ſame Proportion: So that the Blood, when vitiated, may ſo impair the Strength of the Muſcles, as to ſpoil even Digeſtion; and yet in ſome Caſes it may be ſo vitiated, as to help Digeſtion, and to encreaſe Strength.

Strengtheners. By this Term we would be underſtood to mean ſuch things as add to the Bulk and Firmneſs of the *Solids*; and theſe differ from Cordials, as a Bandage does from a Fleſh-bruſh. The former are ſuch as facilitate, and drive on the vital Actions; but theſe ſuch as confirm the *Stamina*, and maintain the Solids in ſuch a Condition, as to exert themſelves into Action on all proper Occaſions, with the greateſt Force and Vigour.

The continual Waſte which conſtant Motion makes in the Conſtitution, were it not for frequent and proper Supplies, would ſoon wear the Body quite out. The Attritions and Abraſions of the circulating Fluids would quickly carry away the Canals in which they circulate, were not ſomewhat furniſhed in their Compoſition, which is ſuited to fall into, adhere with, and recruit that which is waſhed off. And thoſe Particles muſt be much more diſpoſed ſo to do, whoſe Adheſions are greateſt when once they come into Contact; ſuch are thoſe of Bodies we call glutinous, and which eaſily form themſelves into Jellies, and ſuch-like Conſiſtencies; for the Parts of ſuch Bodies are very light, by the Over-proportion of their Surfaces to their Solidities, whereby their Motions are both more languid when in Circulation; and when once they ſtop, their Coheſions will be much the ſtronger with whatſoever they happen to fall into Contact. Medicines of this Tribe are therefore of great Service in Hecticks, where the ſwift Motion of a thin ſharp Blood wears away the Subſtance of the Body inſtead of nouriſhing it; for they not only retard the inordinate Motion, but give ſuch a Weight and Conſiſtence to the Juices, as fits them alſo for Nouriſhment.

There are likewiſe other Cauſes, which may weaken the Solids, by admitting, or occaſioning them to relax too much. Whatſoever therefore acts as a *Stimulus*, and criſps and corrugates the Fibres into a more compacted Tone, which moſt auſtere and pointed Bodies do, will remove ſuch Weakneſs, and increaſe Strength: and as alſo too much Moiſture may contribute to ſuch Relaxation, what has no other Quality but abſorbing and drying up ſuch ſuperfluous Humidities, may deſerve, tho accidentally, to come under this Denomination.

Striæ, are the ſmall Hollows or Channels in Shells, Plants, or any other Bodies.

Strictor, the ſame as *Sphincter*; which ſee.

Struma, is a Diſtemper, wherein the Glands are very much indurated, and diſtinguiſhed by ſome Writers into different kinds, from the Parts which are chiefly affected, the ſame as *Scrophula*, and what we commonly call the King's-Evil, from a ſtrange Conceit of its being curable by the *Royal-Touch*; concerning which may be conſulted *Wiſeman* in his Chirurgical Treatiſes: And hence,

Strumous, expreſſes ſuch Swellings in the Glands as happen in this Diſtemper.

Stupefiers, the ſame as *Narcoticks*; which ſee.

Stupha, a Stupe, the ſame as *Fomentation*.

Stupor, a Numbneſs, occaſion'd by any accidental Bandage that ſtops the Motion of the Blood and nervous Fluids, or from a Decay in the Nerves, as in a Palſy.

Stygia, is aſcribed to a Water made from Sublimate, and directed in moſt Diſpenſatories, on a Suppoſition of its poiſonous Qualities, from *Styx*, a Name given by the Poets to one of the Rivers in Hell: the *Aqua Regia* is alſo thus ſometimes called from its corroſive Qualities.

Style, ſo Botaniſts call that middle prominent Part of the Flower of a Plant, which adheres to the Fruit or Seed; 'tis uſually ſlender and long, whence it has its Name. And hence,

Styliformis Proceſſus, is from its Shape thus called. See *Cranium*. And

Styloceratohyoides, are the ſame as *Ceratohyoides*; which ſee.

Stylogloſſus; ſee *Lingua*. And,

Styloides, the ſame as *Styliformis*. And,

Stylohyoides; ſee *Lingua*. And,

Stylopharyngæus; ſee *OEſophagus*. Theſe are ſeveral Terms compounded of, *Stylus*, and Words expreſſing the Parts whereunto it is applied; which ſee under thoſe Words.

Stypticks, ſignifies any thing that binds together, the ſame as Aſtringents; but generally expreſſes the moſt efficacious ſort, or thoſe which are applied to ſtop Hæmorrhages.

Subclavian, is applied to any thing under the Arm-pit, or Shoulder, whether Artery, Nerve, Vein, or Muſcle. And hence,

Subclavius, is a Muſcle that ariſeth from the lower ſide of the *Clavicula*, near the *Acromium*, and deſcends obliquely, to be inſerted into the upper part of the firſt Rib, near the *Sternum*.

Subcutaneous, is any thing under the Skin: whence ſome Writers, and particularly *M. A. Severinus*, call thoſe Tumours, ſuch as do not extend far enough to affect it; or where the obſtructed Matter gathers all together below it.

Subduction, is variouſly applied; but the only Signification worth notice here is given it by *Bellini*, who applies it to that Motion of an Artery when it is in its Syſtole, or draws from the Touch inwards.

Sublimation, differs very little from Diſtillation, excepting that in Diſtillation only the fluid Parts of Bodies are raiſed, but in this the ſolid and dry; and that the Matter to be diſtilled may be either ſolid or fluid: but Sublimation is concerned only about ſolid Subſtances.

There is alſo another Difference, namely, that Rarefaction, which is of very great Uſe in Diſtillation, has hardly any room in Sublimation; for the Subſtances which are to be ſublimed, being ſolid, are incapable of Rarefaction: and ſo 'tis only Impulſe which can raiſe them.

However, it may not be improper to inquire a little more nicely into the reaſon of ſuch a Diverſity in the Elevation of Bodies; why ſome do aſcend with a gentle Heat, and others are not to be raiſed with the moſt vehement Fire. And ſuch an Inquiry will more properly come in here, becauſe this Head contains all the Buſineſs of Volatility and Fixation; concerning which ſo much has been writ, and ſo little to the Purpoſe.

Fixed Bodies are ſuch as abide the Fire; volatile, ſuch as not being able to endure the Fire, are raiſed by the Force of its Heat. We will therefore begin with the firſt, and explain the Manner how in volatile Subſtances, which ſeem to be of the ſame Nature, there happens to be ſo great a Variety and Difference of Elevation.

The Cauſe of this Elevation and Aſcent in the Particles of Bodies, is to be aſcribed to the Fire, not only on the account of Impulſe, but of another Property the Fire has; namely, to inſinuate it ſelf into all the Interſtices of theſe Bodies, and thereby break the Coheſion of their Parts, ſo that they are at laſt divided into very ſmall Parts, if not into the ſmalleſt, which Art can reduce them into. Particles thus ſeparated and divided, loſe much of their Gravity. For the Gravity of the ſame Particle decreaſes in the ſame Proportion as the Cube of its Diameter is leſſened. Suppoſe therefore a Body, whoſe Diameter is 12, and its Gravity 12: If then its Diameter be made leſs by 1, (*viz.* 11.) the Gravity of that Body will be only 9 $\frac{1}{4}$, or thereabouts. For 1331, which is the Cube of the laſt Diameter, bears the ſame Proportion to 9 $\frac{1}{4}$, which 1728, the Cube of the firſt Diameter, does to 12, the

Gravity of the Body. But if the Diameter be reduced to 10, the Gravity will but juſt exceed 6; and if it is diminiſhed half, that is to 6, then the Gravity will be leſs than 2. So that very minute Corpuſcles, when their Diameter is leſſened as much as may be, have ſcarce any Gravity at all. Therefore when once they are divided after ſuch a manner as has been deſcribed, they are very eaſily ſublimed.

Nor does there only a Decreaſe of Gravity follow from this Diviſion of the Particles of Bodies, but there is another thing too, which is the Reſult of it, that conduces very much to quicken the Aſcent; and that is, the Variety of their Surfaces. *For the Surface* of a Body decreaſes in a very different manner from *Gravity only, as the Square of the Diameter is leſſened.* Therefore where the Gravity decreaſes in ſuch a Series, as expreſſed by the Numbers 1728, 1331, 1000, the Diminution of the Surface will obſerve this Proportion, *viz.* 144, 121, 100. And when upon reducing the Diameter to 6, the Gravity will be leſs than 2, the Surface will ſtill amount to 36. So that tho the Gravity of a Particle be ſo leſſened, as to be reduced almoſt to nothing, yet there will be Surface enough left, which will ſerve to raiſe it. This Argument, which is drawn from the Largeneſs of the Surface, and which has been explained by Calculation, may be demonſtrated as it were to Senſe, by the following Experiment. If Water be pour'd upon the Filings of Iron, and a little Oil of Vitriol dropt upon it, a Fermentation will preſently ariſe, and the Globules of Air, in ſtriving to diſengage and extricate themſelves, will carry up with them ſome of the Particles of Iron to the Surface of the Water. This can happen upon no other account, but that the Proportion of Gravity in the Filings of Iron is very ſmall in reſpect to the Largeneſs of their Surface; and therefore Iron is forc'd upwards by a Body, which is a great deal ſpecifically lighter than it ſelf. But how much this muſt contribute to a more quick Aſcent, has been in general explained already, and will be much more evident to the Senſes, from the Sublimation of Camphire, Benzoin, and Arſenick; whoſe Particles, as they cohere but looſely, are for that reaſon diffuſed into a large Surface: upon which account they are the eaſieſt to ſublimed of any. Nay, theſe ſolid Particles, upon account of their Surface, will ſooner aſcend than ſome Fluids. So Flower of Sulphur riſes ſooner than Oil, not only that of Vitriol, but any other, tho ever ſo light. By this Contrivance of Nature, *viz.* that the Gravity of Bodies decreaſes in a triplicate, but their Surface in a duplicate Proportion of their Diameters; it comes to paſs that Bodies which have a very different Gravity, may be raiſed with the very ſame Force. Thus the Salts of Animals, as of Hartſhorn, human Blood, of Vipers, *&c.* being compoſed of very minute Corpuſcles, as is found by Experience in diſtilling them, do eaſily aſcend, becauſe the Surface in them is not leſſened ſo much as the Gravity is. And the Salts of Vegetables, as of Tartar and Balſam, *&c.* which are of a more cloſe Texture, by reaſon of their large Surfaces, are without much difficulty rais'd. The Corpuſcles alſo of Minerals and Metals, tho very compact and heavy, do in ſome meaſure give way to the Fire, and are capable of being ſublimed.

In all theſe Inſtances the Breadth of the Surface, which expoſes the Particles more to the *Impetus* of the Fire, is the reaſon why they are raiſed with as much eaſe, as if their Gravity had been leſſen'd by diminiſhing their Surface: So that Particles, tho ever ſo different in Weight, may be equally raiſed by the ſame Degree of Heat, if the Proportion of their Gravity be reciprocal to that of their Surfaces.

Sublimate, Crude. See *Mercury.*

Sublimis, the ſame as *Perforatus*; which ſee.

Sublingual Glands. See *Mouth.*

Sublinguales, both from *ſub,* under, and *Lingua,* the Tongue. The latter are Medicines to roll about in the Mouth, as Lozenges, and the like.

Submerſus, is ſaid of any thing dipped under Water: whence by ſome it is applied to a low and almoſt undiſcernable Pulſe.

Subſcapularis Muſculus, covers all the internal ſide of the *Scapula.* It ariſeth fleſhy from the upper and lower *Coſta,* and is inſerted into the Neck of the *Humerus.* It draweth the Arm to the Ribs.

Subſidence, is the Settling of any thing; the ſame as Sediment.

Subſtance, in a phyſical Senſe, is the ſame as Matter; which ſee.

Subſtitute, is ſaid of one Medicine put in the room of another, neareſt to it in Virtue, when that cannot be had.

Subſultus, from *ſub,* under, and *ſalio,* to leap; is the ſame as *Spaſmodick,* or a Convulſion, from the Senſe of leaping, which the Nerves give to the Hand lying upon them.

Subtile Matter. See *Matter.*

Subtilization, is making any thing ſmaller, ſo as to riſe in Vapour. See *Diſtillation* and *Sublimation.*

Sububeres, hath been uſed by ſome Writers for thoſe Infants who yet ſuck, in diſtinction from thoſe who were weaned, and then called *Exuberes,* from the two oppoſite Prepoſitions *Sub* and *Ex*; and *Ubera, Mammæ,* the Breaſts.

Succedaneum, is any thing ſubſtituted in the room of another. But *Bellini* alſo uſes it for thoſe Symptoms, which by others have been called *Supervenientia*; which ſee.

Succenturiati Renes. See *Kidneys.*

Succubus, the ſame as *Incubus*; only that this is ſuppoſed of the Female, as that is an evil Spirit of the Male-kind: but ſuch Figments are now in deriſion.

Succus, is any Juice; whence,

Succus Nervoſus, the animal Spirits.

Succus Nutritius, Chyle.

Succus Pancreaticus, the Juice ſeparated by the Sweatbread, *&c.*

Succuſſation, and *Succuſſion,* is ſuch a ſhaking of the nervous Parts as is procured by ſtrong *Stimuli,* like Sternutatories, Friction, and the like, which are commonly uſed in Apoplectick Affections.

Sudarium, is a Name given to a Cloth, with which Sweat has been wiped off; whence many ſuch are ſhewed amongſt the Relicks of the Roman Church, to which ſtrange Virtues have been aſcribed: and even *Helmont* vindicates their Opinion of a Cloth, ſaid to have been ſo uſed by St. *Paul*; affirming it to have a real magnetick Virtue.

Sudor, Sweat. This differs much from Perſpiration, and is the Conſequence of accelerating the Blood's Motion by *Stimuli,* or Exerciſe, or a Relaxation of the Pores; the latter is the Caſe of Fainting, and cold Sweats. See *Perſpiration,* from an Acquaintance with which, this will be beſt underſtood. Hence, *Sudorificks*, from *Sudor*, Sweat, and *facio*, to make, are ſuch Medicines as promote Sweat.

Suffimentum, and

Suffitus, is the ſame as Fumigation, by burning things upon live Coals, and receiving the Steam for many medicinal Purpoſes.

Suffocation, Choaking. This is uſed in Hyſterick Caſes, wherein the *Uterus* is imagined to be obſtructed, and as it were ſuffocated with ill Humours.

Suffuſion, the ſame as *Cataract*; which ſee.

Sulphur, is Brimſtone. As it is reckoned a *Principle* by Chymiſts; ſee that Term.

Summitates, Tops, are the Tops of Herbs.

Superbus, the ſame Muſcle as *Attollens*, which ſee; thus called, becauſe as it lifts up the Eye-brows, it gives an Air of Pride.

Supercilium, the Eye-brow; ſee *Eye*.

Superficies, the ſame as *Surface*; which ſee.

Superfœtation, from *ſuper*, above or over, and *Fœtus*, an Embryo, is when one Conception follows another by a future Coition, ſo that both are in the Womb together, but come not to their full time for Delivery together.

Superſcapularis ſuperior, the ſame as *Supraſpinatus*; which ſee.

Superſcapularis inferior, called alſo *Infraſpinatus*, is a Muſcle that helps to draw the Arm backwards. It covers all the Space that is between the Spine and the *Teres minor*, and is inſerted into the Neck of the *Humerus*.

Supervenientia ſigna, are ſuch as ariſe at the declenſion of a Diſtemper.

Supinatores, are two Muſcles, the *longus* and *brevis*: The firſt ariſeth by a fleſhy beginning, three or four Fingers Breadth, above the external Extuberance of the *Humerus*. It lies all along the *Radius*, to whoſe inferior and external Part it is inſerted by a pretty broad Tendon. The laſt comes from the external and upper-part of the *Ulna*, and paſſing round the *Radius*, 'tis inſerted into its upper and fore-part, below the Tendon of the *Biceps*. Theſe turn the Palm of the Hand upwards.

Suppedanea, the ſame as

Supplantalia, from *ſub*, under, and *Planta*, the Sole of the Foot; are any things applied for medicinal Purpoſes to that Part.

Suppoſitorium, from *ſub*, under, and *pono*, to put, is a Form of Medicine to be thruſt up the Fundament, when Clyſters are not ſo convenient.

Suppuration, is the Ripening or Change of the Matter of a Tumour into *Pus*, which may be effected either by natural Means, or by the *Vis Vitæ*, or by the Uſe of artificial Compoſitions, by way of Plaiſters, Cataplaſms, or the like. See *Abſceſs* or *Impoſthume*.

Supraſpinatus, is a Muſcle that ariſes fleſhy from all the Baſis of the *Scapula* that is above the Spine. It fills all that Space between the upper ſide of the *Scapula* and its Spine, to which it is alſo attached. It paſſes above the *Acromium*, over the Articulation of the *Humerus*, which it embraces by its Tendon. It helps to lift the Arm upwards.

Suppreſſion, is uſed for the Stoppage of the Menſes, Urine, or any other Diſcharge.

Sura, ſignifies the Calf, or fleſhy Part of the Leg; but is often applied to the Shin-Bone, ſo as to mean the ſame as *Fibula*; which ſee.

Surface, is the bare outſide of any Body, without any Dimenſion of Thickneſs.

Suſpended or *Appended*, is ſaid of external Remedies, which are wore about the Neck, Wriſts, or the like.

Suture, is a particular Articulation. The Bones of the *Cranium* are joined to one another by four Sutures. The firſt is called the *Coronalis*. It reaches tranſverſly from one Temple to the other. It joins the *Os Frontis* with the *Oſſa Parietalia*. The ſecond is called *Lambdoidalis*, becauſe it reſembles the *Greek* Letter (Λ) *Lambda*. It joins the *Os Occipitis* to the *Oſſa Parietalia* and *Petroſa*. The third is called *Sagittalis*. It begins at the Top of the *Lambdoidalis*, and runs ſtrait to the middle of the *Coronalis*. It joins the two *Oſſa Parietalia* together. The Fourth is called *Sutura Squammoſa*, becauſe the Parts of theſe Bones which are joined by this Suture, are, as it were, cut ſlope-wiſe, and lapped over one another.

This Suture joins the ſemicirular Circumference of the *Oſſa Temporum* to the *Os Sphenoides Occipitis*, and to the *Oſſa Parietalia*. The firſt three Sutures were called *Suturæ Veræ*; and the laſt *Sutura Falſa*, becauſe it was ſuppoſed to have no Indentations, which is falſe.

The Bones of the *Cranium* are not only joined to one another, but they are alſo joined to the Bones of the upper Jaw by three other Sutures. The firſt is the *Tranſverſalis*; it runs acroſs the Face, it paſſes from the little Angle of the Eye down to the bottom of the Orbit, and up again by the great Angle of the Eye over the Root of the Noſe, and ſo to the little Angle of the other Eye. It joins the *Os Frontis* to the Bones of the upper Jaw. The ſecond is the *Ethmoidalis*; it ſurrounds the Bone of that Name, and joins it to the Bones which are about it. The third is the *Sutura Sphenoidalis*; it ſurrounds the *Os Sphenoides*, joins it to the *Os Occipitis*, the *Oſſa Petroſa*, and to the *Os Frontis*.

Swallowing. See *Deglutition*.

Symbole, and *Symboliſm*, is ſaid either of the Fitneſs of Parts with one another, or of the Conſent between them by the Intermediation of Nerves, and the like.

Symmetry, is an exact and beautiful Proportion of Parts to one another.

Sympathy, from *συμπάσχω*, *compatior*, to ſuffer with; is the Conſent of one Part with another, or a fellow-feeling of the ſame Paſſion.

Symptom, from *συμπίπτω*, *accido*, to happen; is ſuch a Conjunction of Appearances, or ſuch an Appearance of any one thing, as indicates what will be Iſſue of a Diſeaſe, and the Means of Cure. Hence,

Symptomatical, is often uſed to denote the Difference between the primary and ſecondary Cauſes in Diſeaſes; as a Fever from Pain is ſaid to be ſymptomatical, becauſe it ariſes from Pain only: and therefore the ordinary Means in Fevers are not in ſuch Caſes to be had recourſe to, but to what will remove the Pain; for when that ceaſes, the Fever will ceaſe without any direct Means taken for that.

Synaſtomaſis, is uſed much in the ſame ſenſe as *Anaſtomaſis*; which ſee.

Synarthroſis, and

Synchondroſis. See *Articulation*.

Syncope, from *συνκόπτω*, *coincido*, to fall down; is a ſudden Fainting, or ſwooning away. It comes from various Cauſes, but moſtly hyſterical, and is therefore to be treated as ſuch, unleſs when manifeſtly from ſomewhat elſe, and then it is to be managed accordingly.

Syndrome, from συνδρόμη, *Concurſus*, a Combination of Diſeaſes.

Synocha, and

Synochus, from συνοχέω, *ſuſtineo*, to ſupport, or hold on, or συνέχω, *contineo*, to continue; both ſignifying much the ſame: yet Writers have made the former an intermitting, and the latter a continued Fever.

Synteretica, is that Part of Medicine which ſecures the preſent Enjoyment of Health.

Syntexis, the ſame with Attenuation; which ſee.

Syntheſis, from συντίθημι, *compono*, to compound, is ſometimes uſed in oppoſition to *Analyſis*, and ſignifies the Combination of any thing together of different Parts; the ſame as Contexture.

Syphilis, is a Term uſed for the *Lues Venerea*. Some will have it from σὺν, *cum*, with, and φιλία, *Amor* or *Amicitia*, Love or Friendſhip; becauſe it proceeds from the infectious Intercourſes of Lovers in Coition. Others will have it from the name of a Shépherd ſo called, who was remarkably afflicted with it. However ſome Authors of note uſe the Term, and *Fracaſtorius*, a famous *Italian* Phyſician, gives it for the Title of a Poem he wrote upon that Diſtemper.

Syphon, and

Syringe, are Inſtruments well known, as is their Uſe.

Syſtema, the ſame as *Syntheſis*, from συνίστημι, *conſtituo*, to put together; this is much uſed for a methodical treating upon any Subject.

Syſtole. See *Artery*.

T.

T*Abella*, a Morſel, is uſed for the ſame Form of Medicine as Lozenge.

Tabes, a Conſumption; which ſee.

Tabes Dorſalis, the Back Conſumption, is a *Gonorrhœa Simplex*, or any ſeminal Weakneſs; becauſe the Complaint is moſt ſenſible in the Loins.

Tabula; whence,

Tabulatum, the ſame as *Tabella*.

Tabum, is uſed by ſome Authors to expreſs a kind of Matter, ariſing from a decay of natural Heat, or due Circulation; very different from what is commonly underſtood by *Pus*, which is a ſalutary Maturation, and wanting only Vent; whereas the other is alſo moſt commonly attended with a Gangrene.

Tænia, a broad Worm, like a piece of Tape; for which reaſon it is called the Tape-Worm.

Taliſman, is a Repreſentation of ſomewhat, that by a magical Power does ſtrange Feats, by way of Inchantment; and the Uſe of ſuch prepoſterous Conceits have been vindicated by ſome phyſical Writers, eſpecially in Plagues, and ſuch Calamities, as have been thought the Tokens of divine Wrath.

Talpæ and *Nates*, are Tumours generally confined to the Head, and appearing as the Conſequence of the Venereal Diſeaſe. The *Talpæ* elevate the Skin from the *Pericranium*, and generally denote a

Foulneſs of the Bone beneath: But the *Nates* are uſually ſeated in the Neck.

Talus, is the ſame as *Aſtragalus*. In its upper part it has a convex Head, which is articulated with the two *Fociles* of the Leg by *Ginglymus*, it being divided by a little *Sinus* which receives the ſmall Protuberance in the middle of the *Sinus* of the *Tibia*. And without this Articulation, we muſt always, in going, have trod upon the Heel with our fore Foot, and upon our Toes with our hind Foot. The fore-part of the *Aſtragalus*, which is alſo convex, is received into the *Sinus* of the *Os Naviculare*. Below, towards the hind-part of its under ſide, it has a pretty large *Sinus*, which receives the upper and hind part of the *Os Calcis*. But towards the fore-part of the ſame ſide, it has a Protuberance, which is received into the upper and fore-part of the ſame Bone. Betwixt this *Sinus* and its Protuberance there is a Cavity which anſwers to another in the *Os Calcis*, in which is contained an oily and mucous ſort of Subſtance for moiſtening the Ligaments, and facilitating the obſcure Motion of theſe Bones when we go.

Tangent, is a right Line drawn without a Circle, perpendicular to the *Radius*, and touching the Circle but in one Point.

Tapping. See *Paracenteſis*.

Tarantiſm, is a Diſtemper ariſing from the Bite of a *Tarantula*: And

Tarantati, are thoſe who are ſo bit. Of this very odd Effect, with its Cure, *Baglivi*, an *Italian* Phyſician, hath wrote a very rational Account, whereby it appears that the odd Effects of this Bite, and its Method of Cure by Muſick, are by no means fabulous, as ſome have ſuppoſed.

Tarſus, is the Space between the Bones of the Leg, and the *Metatarſus*, conſiſting of ſeven Bones, *viz.* the *Aſtragalus* or *Talus*, *Calcaneum*, *Naviculare*, three *Oſſa Cuneiformia*, and the *Cubiforme*; which ſee under thoſe Names.

Tartar. This is what is found ſticking to Wine-Casks, like a hard Stone, either white or red, as the Colour of the Wine from whence it comes. The white is preferable, as containing leſs Droſs or earthy Parts; The beſt comes from *Germany*, and is the Tartar of the *Rheniſh* Wine. Some of the old Chymiſts have pretended to do ſtrange Things with Preparations from this Material; and have taken abundance of Pains in its Volatilization.

Taſte, expreſſes that Senſation which all things taken into the Mouth give particularly to the Tongue, the *Papillæ* of which are the principal Inſtruments hereof; but for all the Diverſities of thoſe Senſations, we are very ſhort in Words to expreſs them.

Technical, from τέχνη, *Ars*, Art, is uſed for ſuch Terms as are peculiar to the Rules and Documents of particular Arts.

Teeth. See *Dentes*.

Tegument, is the Covering of any thing; ſo the Skin is a Tegument of the Body.

Telephium, τελήφιον, was a Name by ſome of the Antients given to an incurable Ulcer, from *Telephus*, who received a Wound from *Achilles*, which terminated in ſuch a one.

Temperantia, and

Temperata, ſignify often the ſame as Sweetners or Correcters: And ſuch things as bring the Body to a due

Temperament, and

Temperies, is that diverſity in the Blood of different Perſons, whereby it is more apt to fall into ſome certain Combinations in one Body than another, whether into Choler, Phlegm, *&c.* from whence Perſons are ſaid to be of a bilious or phlegmatick Temperament, or the like.

Temporalis, is a Muſcle that ariſeth by a ſemicircular fleſhy Beginning, from a part of the *Os Frontis*, from the lower part of the *Parietale*; and upper part of the *Temporale*; from whence going under the *Zygoma*, and gathering together as to a Centre, it is inſerted by a ſhort and ſtrong Tendon into the *Proceſſus Coronæ* of the lower Jaw. This Muſcle is alſo called *Crotaphites*.

Temporum Oſſa, the Bones of the Temples. See *Cranium*.

Tenacity, expreſſes that Property in viſcid Subſtances by which they adhere together. And,

Tenacula, both from *Teneo*, to hold, hath been given to a chirurgical Inſtrument, not much differing from the *Forceps*.

Tenar, the ſame as *Abductor Pollicis*, which ſee; as alſo the *Abductor Pollicis Pedis*, is ſometimes thus called by Anatomiſts.

Tendon, from *tendo*, to ſtretch, is the Extremity of a Muſcle, where its Fibres run into a ſtrong ſpringy Chord; and this is called the Head or Tail, as it happens to be at the Origin or Inſertion of the Muſcle.

Teneſmus, is a continual Inclination of going to ſtool, from the Irritation of ſome ſharp Humours.

Tenſion, expreſſes any thing ſtretched out; as the Fibres or Membranes are in certain Circumſtances.

Tentigo. See *Priapiſmus*.

Tepedarium, was a Room, belonging to the antient Bathing-Places, where Perſons gradually prepared themſelves for Entrance, or going out.

Terebellum, or

Terebra, τρύπανον, is often uſed for the *Trepan*; but ſometimes alſo for any Inſtrument to perforate the Bones with, of other Parts as well as the Head.

Teredum, ſignifies the ſame with *Caries*, which ſee.

Teres, ſignifying any thing long and round, is a Name given by ſome to a Worm thus ſhaped, which is apt to breed in humane Bodies, chiefly in Children.

Teres major, the ſame as *Pronator*; which ſee.

Teres minor, is a Muſcle that cometh from the inferior Edge of the *Scapula*, upon which it runs, between the former, and the *Teres major*, and is inſerted into the Neck of the *Humerus*; it helps to draw the Arm backwards.

Terra damnata, condemned Earth, is the remainder after ſome Diſtillations, where all that will riſe is drawn off; the ſame as *Caput Mortuum*.

Terra Mortua, the ſame as *Terra damnata*.

Terminthus, is a little Tumour like the *Epinyctis*; which ſee.

Ternary, conſiſting of the number Three, which ſome chymical and myſtical Writers have made ſtrange work with: But the moſt remarkable diſtinction of this kind, and the only one worth notice, is that of *Hippocrates*, who divides the Parts of an human Body into *Continentes*, *Contentas*, and *Impetum facientes*; tho the latter is reſolvable into the Mechaniſm of the two former, rather than any thing diſtinct in its ſelf.

Tertian, is an Ague intermitting but one Day, ſo that there are two Fits in three Days.

Tertium Quid, invented by the Chymiſts to expreſs that Reſult of the Mixture of ſome two things, which forms ſomewhat very different from both.

Teſtaceous, by Naturaliſts is a Term given only to ſuch Fiſh whoſe ſtrong and thick Shells are enire and of a piece; becauſe thoſe which are joined, as the Lobſters, *&c.* are called cruſtaceous: but in Medicine all Preparations of Shells and Subſtances of the like kind is thus call'd.

Teſtes Cerebri. See *Brain.*

Teſticles. See *Generation Parts of, proper to Men and Women.*

Tetanus, from *τείνω*, *tendo*, to ſtretch, is a convulſive Motion that makes any part rigid and inflexible.

Tetrapharmacum, from *τέσσαρες*, *quatuor*, four, and *φάρμακον*, *Medicamentum*, a Medicine; is any Remedy conſiſting of four Ingredients.

Tetrapetalous, from *τέσσαρες*, *quatuor*, and *πέταλον*, *Folium*, a Leaf, are ſuch Flowers as conſiſt of four Leaves round the Style. Plants having a tetrapetalous Flower, conſtitute a diſtinct kind, and by Mr. *Ray* are divided into, 1. Such as have an uniform tetrapetalous Flower, and their Seed-Veſſels a little obiongiſh, which therefore he calls *Siliquoſæ*. As the *Keiri* or *Leucoium Luteum*, and the other common *Leucoium*; the *Dentaria*, the *Leucoium Siliquoſum*, *Auyſſon*, *Viola Lunaris*, *Paronychia*, *Heſperis*, *Alliaria*, *Rapa*, *Napus*, *Sinapi*, *Rapiſtrum*, *Eruca ſpuria*, *Eryſimum*, *Cardamine*, *Turritis*, *Piloſella Siliquoſa*, and the *Raphanus Ruſticanus* and *Aquatitus*. 2. Such as have their Seed-Caſe or Veſſel ſhorter, which therefore for diſtinction he calls *Capſulatæ* and *Siliculoſæ*; as the *Myagrum*, *Draba*, *Leucoium*, *Siliqua ſubrotunda*, *Cochlearia*, *Naſturtium*, *Lepidium vulgare*, *Thlaſpi*, *Braſica marina*, *Glaſtum*, *Eruca marina*, &c. 3. Such as have a kind of or ſeeming tetrapetalous Flower, *i. e.* a monopetalous one divided deeply into four Partitions, and theſe he calls *Anomalous*; as the *Papaver*, *Agremone*, *Veronica*, *Tithymallus*, *Plantago*, *Coronopus*, *Pſyllium*, *Lyſimachia ſiliquoſa*, *Alſine ſpuria*, &c.

Texture, is that peculiar Diſpoſition of the conſtituent Particles of any Body, as makes it to have ſuch a Form, or be of ſuch a Nature, or be endued with ſuch Qualities.

Thalamus, ſignifies a Bed, whence ſome Parts are diſtinguiſhed by it, having Reſemblance thereunto in office; as,

Thalami Nervorum Opticorum. See *Brain.*

Theca, ſignifies any Caſe or Covering; whence Botaniſts apply it to ſome Parts of particular Flowers: and *Hildanus* uſes it for a Caſe for chirurgical Inſtruments.

Thenar, the ſame as *Tenar.*

Theophraſtici; the Diſciples of *Theophraſtus Paracelſus* were by ſome thus called.

Theorem, is a Propoſition upon any Subject that is demonſtrable, differing from a Problem in this, that it barely aſſerts a thing to be prov'd, whereas a Problem ſuppoſes ſome *Data*, then requires them to be put together; and laſtly, aſſerts the thing requir'd to be done, which is to be proved by the Demonſtration.

Theoria, from *θεωρέω*, *contemplor*, to contemplate, is the ſpeculative part of any Science, that directs to the Rules of Practice.

Theraputick, from *θεραπεύω*, *ſano*, to make well; is that part of Phyſick that reſpects the Preſcription of Medicine, or the Method of Cure.

Theriaca, probably from *θήρ*, *Fera*, a Beaſt, and *ἀκέομαι*, *ſano*, to cure; becauſe it is apply'd to ſuch things as are chiefly calculated for curing the Bites of poiſonous Animals; and for the ſame reaſon good in all Malignities. It was firſt given to the celebrated Compoſition of *Andromachus*, which is one of our officinal Capitals; but many Writers ſince have alſo aſcribed it to many other Medicines of like Form and Virtue.

Thermæ, from θερμαίνω, *calefacio*, to make warm, are hot Baths. See *Baths* and *Bathing*.

Thermometer, from the former; and μέτρον, *Menſura*, a Meaſure; is an Inſtrument to meaſure or eſtimate the Heat or Cold of any particular Place, or of the ſame Place in different Seaſons, and at different Times.

Theſis, is any ſhort Sentence or Subject taken to diſcourſe or diſpute upon in the Schools, prior to the conferring Degrees of Phyſick, &c.

Theſſalici; the Diſciples of *Theſſalus* were by ſome thus call'd, who was the firſt of the Sect of the *Methodiſts*.

Thigh. See *Femur*.

Thirſt. See *Hunger*.

Thoracick Medicines, are ſuch as are good for Diſtempers of the Breaſt.

Thoracick Duct. See *Lacteal Veins*. Both from

Thorax, the Breaſt. All that lies betwixt the Baſis of the Neck and the *Diaphragm* or Midriff; that is, down to the laſt Ribs, is called the *Thorax* or Cheſt. The fore-part of the *Thorax* is call'd the Breaſt; in it are the *Claviculæ* or Channel-Bones, and the *Sternum* or Breaſt-Bone, which is in the middle; it begins at the *Claviculæ*, and terminates in the *Cartilago Xiphoides* or Sword-like Cartilage. Under the *Sternum* lies the *Mediaſtinum*, and the Heart in its *Pericardium*. The *Mammæ* or Breaſts are two round Tumours which appear upon the fore-part of the Cheſt, under which are ſituated part of the Ribs, the *Pleura*, and the Lungs: There ſtands upon their Center a little Protuberance, called *Papilla* or Nipple, which is encompaſſed with a reddiſh Circle, call'd *Areola*. The Hollow in the middle of the Breaſt, below the Breaſts, is call'd *Scrobiculus Cordis*. The hinder part of the *Thorax* is call'd the Back, compoſed of twelve *Vertebræ* or Joints, and two *Scapulæ* or Shoulder-blades, which are the two upper Parts of the Back on the ſides of the *Vertebræ*. The lateral Parts of the *Thorax* are call'd *Periſterna*.

Thimion, is a ſmall Wart riſing upon the Skin of the Body; being ſomewhat ſlender, but flat; is hard and rough at the Top. The worſt kind of them, are thoſe which are apt to bleed.

Thymus, is a conglobate Gland, ſituated in the upper part of the *Thorax* under the *Claviculæ*, where the *Cava* and *Aorta* divide into the Subclavian Branches. This Gland is big in Infants, but as they grow in Age, it grows leſs. Its Arteries and Veins are Branches of the *Carotides* and *Jugulars*. It has Nerves from the *Par Vagum*, and its Lymphatick Veſſels diſcharge themſelves in the *Ductus Thoracicus*. The learned Dr. *Tyſon* ſuppoſes the Uſe of this Gland to be for a *Diverticulum* to the Chyle in the Thoracick Duct of a *Fœtus*, whoſe Stomach being always full of the Liquor in which it ſwims, muſt keep the Thoracick Duct diſtended with Chyle; becauſe the Blood which the *Fœtus* receives from the Mother fills the Veins, and hinders the free entrance of the Chyle into the Subclavian Vein. The Surgeons have given the Name of *Thymi* to ſome little Excreſcencies, reſembling the Tops of the Herb Thyme.

Thyroarytænoides, from θύρος, *Scutum*, a Helmet, ἀρύω, *haurio*, to draw, and εἶδος, *Forma*, Shape; is a Muſcle of the *Larynx*, thus called from its Shape and Office, as it aſſiſts in opening the Wind-Pipe, and drawing in Air. See *Larynx*.

Thyroidææ, from part of the former Etymology, are Glands of the *Larynx*; which ſee: And

Thyroides, is from the ſame Derivation. See alſo *Larynx*.

Tibia, is the inner and bigger Bone of the Leg, called alſo *Focile Majus*: 'tis hard and firm, with a Cavity in its middle; 'tis almoſt triangular: its fore and ſharp Edge is call'd the Shin. In its upper Extremity it has two large *Sinus's*, tipt with a ſoft and ſubtile Cartilage, call'd *Cartilago Lunata* from its Figure: It runs in between the Extremities of the two Bones, and becomes very thin at its edge. Like thoſe in the Articulation of the lower Jaw, it facilitates a ſmall ſide Motion in the Knee. The *Sinus's* receive the two Protuberances of the Thigh-Bone; and the Production which is between the *Sinus's* of the *Tibia* is receiv'd in the *Sinus*, which divides theſe two Protuberances of the *Femur*. By bending our Knee, we bring our Leg in walking in a ſtrait Line forwards, which without this Articulation we could not have done: but, like thoſe who have the Misfortune to have a wooden Leg, we muſt have brought our Foot about in a Semi-circle in going even upon a Plain, but more evidently upon an Aſcent. On the ſide of this upper end it has a ſmall Knob, which is receiv'd into a ſmall *Sinus* of the *Fibula*; and on its fore-part, a little below the *Patella*, it has another, into which the Tendons of the Extenſors of the Leg are inſerted. Its lower Extremity, which is much ſmaller than its upper, has a remarkable Proceſs which forms the inner Ankle, and a pretty large *Sinus* divided in the middle by a ſmall Protuberance; the *Sinus* receives the convex Head of the *Aſtragalus*, and the Protuberance is receiv'd into the *Sinus* in the convex Head of the ſame Bone. It has another ſhallow *Sinus* in the ſide of its lower end, which receives the *Fibula*.

Tibiæus, and

Tibialis Muſculus; of this Name there are two Muſcles, the *Anticus*, which ariſes fleſhy from the upper and fore-part of the *Tibia*, and adhering to the external ſide of the *Tibia*, as it deſcends it paſſes under the *Ligamentum Annulare*, and is inſerted into the *Os Cuneiforme*, which anſwers to the great Toe; and the *Poſticus*, which ariſes from the ſuperior and back-part of the *Tibia* and *Fibula*, and the Membrane that ties them together; and deſcending by the hinder-part of the *Tibia*, it paſſes thro' the Fiſſure of the inner Ankle, and is inſerted into the under-ſide of the *Os Naviculare*; this moveth the Foot inwards, and the former bendeth it forwards.

Tide. Dr. *Halley* hath made the following Abſtract of the Theory of Tides from Sir *Iſaac Newton*. The Principle upon which this Author proceeds to explain moſt of the great and ſurprizing Appearances of Nature, is no other than that of Gravity; whereby in the Earth all Bodies have a Tendency towards the Centre, as is moſt evident; and from undoubted Arguments 'tis prov'd, That there is ſuch a Gravitation towards the Centre of the Sun, Moon, and all the Planets.

From this Principle, as a neceſſary Conſequence, follows the ſpherical Figure of the Earth and Sea, and of all the other celeſtial Bodies; and tho the Tenacity and Firmneſs of the ſolid Parts ſupport the Inequalities of the Land above the Level, yet the Fluids preſſing equally, and eaſily yielding to each other,do ſoon reſtore the *Æquilibrium,* if diſturb'd, and maintain the exact Figure of the Globe.

Now this Force of the Deſcent of Bodies towards the Centre, is not in all Places alike, but is ſtill leſs and leſs as the Diſtance from the Centre increaſes: and in the ſaid Book it is demonſtrated, that this Force decreaſes, as the Square of the Diſtance increaſes; that is, the Weight of Bodies, and the Force of their Fall is leſs, in Parts more remov'd from the Centre, in the Proportion of the Squares of the Diſtance.

As for Example: A Tun Weight on the Surface of the Earth, if it were raiſed to the height of 4000 Miles, which is, ſuppoſe, the Semidiameter of the Earth, would weigh but a quarter of a Ton, or 500 *l.* Weight.

If to 12000 Miles, or 3 Semidiameters from the Surface, that is 4 from the Centre, it would weigh but one 16th part of the Weight on the Surface, or a Hundred and a Quarter: So that it would be as eaſy for the Strength of a Man at that height, to carry a Tun Weight, as here on the Surface to carry a Hundred and a Quarter.

And in the ſame Proportion do the Velocities of the Fall of Bodies decreaſe: for whereas on the Surface of the Earth, all things fall 16 Foot in a Second, at one Semidiameter above, this Fall is but 4 Foot: and at three Semi-diameters, or four from the Centre, it is but $\frac{1}{16}$ of the Fall at the Surface, or but one Foot in a Second; and at greater Diſtances both Weight and Fall become very little, but yet at all given Diſtances, is ſtill ſomething, tho the Effect become inſenſible.

At the Diſtance of the Moon (which ſuppoſe to be 60 Semidiameters of the Earth) 3600 Pounds weigh but one Pound, and the Fall of Bodies is but $\frac{16}{3600}$ of a Foot in a Second, or 16 Foot in a Min. that is, that a Body ſo far off deſcends in a Minute no more than the ſame at the Surface of the Earth would do in a Second of Time.

And as we ſaid before, the ſame Force decreaſing after the ſame manner, is evidently found in the Sun, Moon, and all the Planets; but more eſpecially in the Sun, whoſe Force is prodigious,becoming ſenſible even at the immenſe diſtance of *Saturn.* This gives room to ſuſpect, that the Force of Gravity is in the celeſtial Globes proportional to the Quantity of Matter in each of them: And the Sun being at leaſt 10000 times (for Inſtance, tho he is far bigger) as big as the Earth, its Gravitation, or attracting Force, is found to be at leaſt 10000 times as much as that of the Earth, acting on Bodies at the ſame Diſtances.

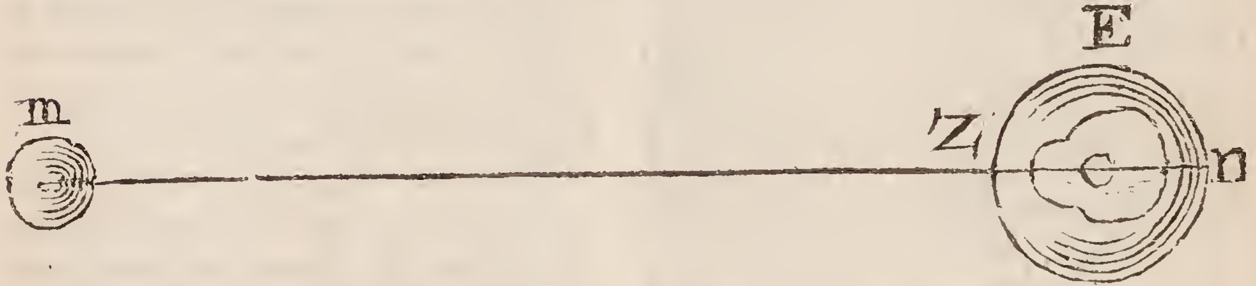
Whence alſo, all the ſurprizing *Phænomena* of the Flux and Reflux of the Sea, he ſhews in like manner to proceed from the ſame Principle.

If the Earth were alone, that is to ſay, not affected by the Actions of the Sun and Moon, it is not to be doubted, but the Ocean being equally preſſed by the Force of Gravity towards the Centre, would continue in a perfect Stagnation always at the ſame height, without ever ebbing or flowing; but it being by him demonſtrated, that the Sun and Moon have a like Principle of Gravitation towards their Centres, and that the Earth is within the Activity of their Attractions, it will plainly follow, that the Equality of the Preſſure of Gravity towards the Centre will thereby be diſturbed. And tho the ſmallneſs of theſe Forces, in reſpect to the Gravitation towards the

Earth's Centre, renders them altogether imperceptible by any Experiments we can deviſe, yet the Ocean being fluid, and yielding to the leaſt Force, by its riſing, ſhews where it is leaſt preſt, and where it is more preſt by its ſinking.

Now if we ſuppoſe the Force of the Moon's Attraction to decreaſe as the Square of the Diſtance from its Centre increaſes (as in the Earth, and other Celeſtial Bodies) we ſhall find, that where the Moon is perpendicularly either above or below the Horizon, either in Zenith or Nadir, there the Force of Gravity is moſt of all diminiſhed, and conſequently that there the Ocean muſt neceſſarily ſwell, by the coming in of the Water from thoſe parts where the Preſſure is greateſt, *viz.* in thoſe Places where the Moon is near the Horizon. But that this may be the better underſtood, 'twas thought needful to add the following Scheme, where *M* is the Moon, *E* the Earth, C its Centre, Z the Place where the Moon is in the Zenith, *N* where the Nadir.

Now by this Hypotheſis it is evident, that the Water in Z being nearer, is more drawn by the Moon, than the Centre of the Earth *C*, and that again more than the Water in *N*; therefore the Water in Z has a Tendency towards the Moon, contrary to that of Gravity, being equal to the Exceſs of the Gravitation of Z, above that in *C*. And in the other Caſe, the Water in *N* tending leſs towards the Moon, than the Centre *C*, will be leſs preſs'd, by as much as is the difference of the Gravitations towards the Moon in *C* and in *N*.



This being rightly underſtood, it follows plainly, that the Sea, which otherwiſe ſhould be Spherical, upon the Preſſure of the Moon, muſt form it ſelf into a Spheroidal, or oval Figure, whoſe longeſt Diameter is where the Moon is Vertical, and ſhorteſt where ſhe is in the Horizon; and that the Moon ſhifting her Poſition, as ſhe turns round the Earth once a Day, this Oval of Water ſhifts with her, occaſioning thereby the two Floods and Ebbs obſervable in each 25 Hours.

And this may ſuffice as to the general Cauſe of the Tides: It remains now to ſhew how naturally this Motion accounts for all the Particulars that have been obſerved about them; ſo that there can be no room left to doubt, but that this is the true Cauſe thereof.

The Spring-Tides upon the New and Full Moons, and the Neap-Tides on the Quarters, are occaſion'd by the attractive Force of the Sun, in the New and Full, conſpiring with the Attraction of the Moon and producing a Tide by their united Forces; whereas in the Quarters, the Sun raiſes the Water where the Moon depreſſes it, and on the contrary; ſo as the Tides are made only by the difference of their Attraction.

That the Force of the Sun is no greater in this Caſe, proceeds from the very ſmall Proportion the Semidiameter of the Earth bears to the vaſt Diſtance of the Sun.

It is alſo obſerved, that, *cæteris pari-*

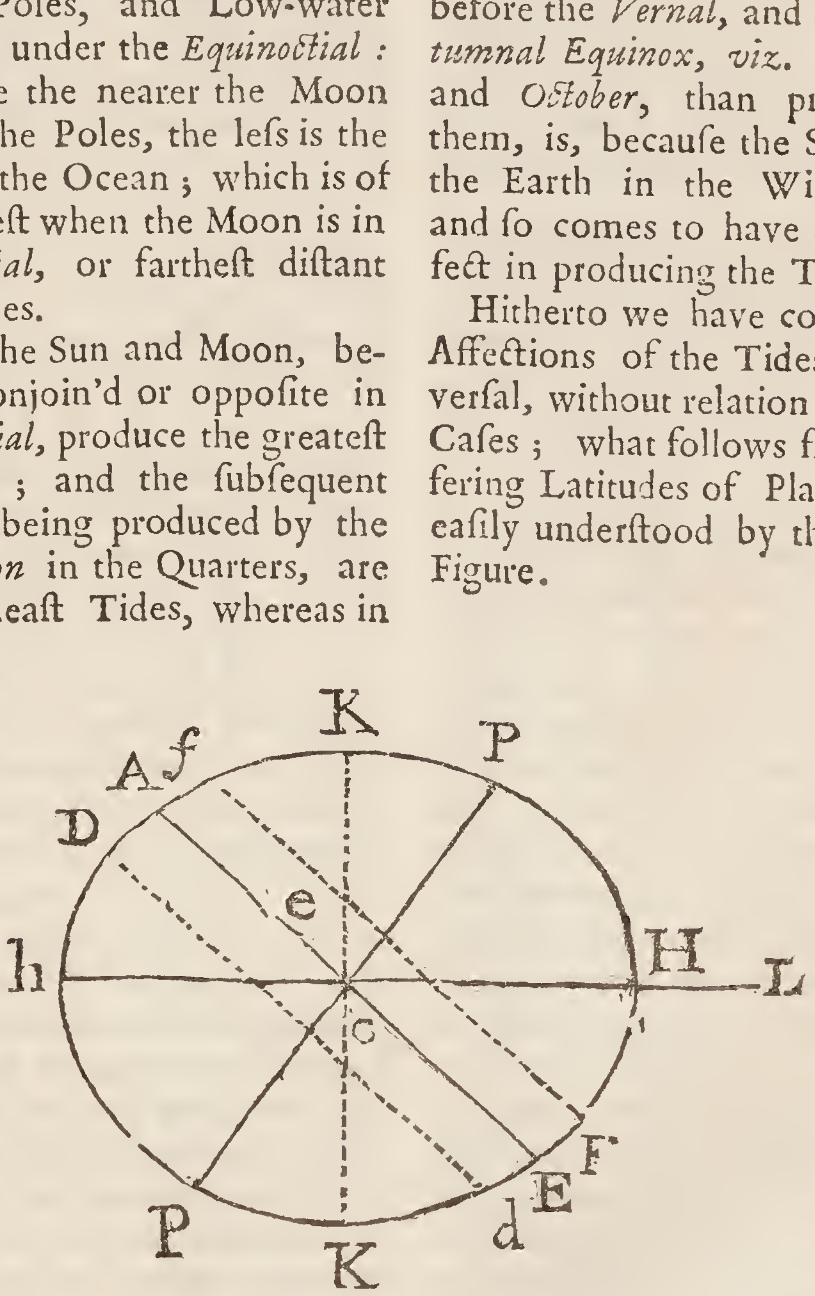
paribus, the *Equinoctial* Spring-Tides in *March* and *September,* or near them, are the higheſt, and the Neap-Tides the loweſt: which proceeds from the greater Agitation of the Waters, when the fluid Spheroid revolves about a great Circle of the Earth, than when it turns about in a leſſer Circle; it being plain, that if the Moon were conſtituted in the Pole, and there ſtood, the Spheroid would have a fix'd Poſition, and that it would be always High-water under the Poles, and Low-water every where under the *Equinoctial:* and therefore the nearer the Moon approaches the Poles, the leſs is the Agitation of the Ocean; which is of all the greateſt when the Moon is in the *Equinoctial,* or fartheſt diſtant from the Poles.

Whence the Sun and Moon, being either conjoin'd or oppoſite in the *Equinoctial,* produce the greateſt Spring-Tides; and the ſubſequent Neap-Tides being produced by the *Tropical Moon* in the Quarters, are always the leaſt Tides, whereas in *June* and *December* the Spring-Tides are made by the *Tropical Sun* and *Moon,* and therefore leſs vigorous; and the Neap-Tides by the *Equinoctial Moon,* and therefore are the ſtronger.

Hence it happens, that the Difference between the Spring and Neap-Tides in theſe Months, is much leſs conſiderable than in *March* and *September.*

And the Reaſon why the higheſt Spring-Tides are found to be rather before the *Vernal,* and after the *Autumnal Equinox, viz.* in *February* and *October,* than preciſely upon them, is, becauſe the Sun is nearer the Earth in the Winter-Months, and ſo comes to have a greater Effect in producing the Tides.

Hitherto we have conſider'd ſuch Affections of the Tides as are univerſal, without relation to particular Caſes; what follows from the differing Latitudes of Places, will be eaſily underſtood by the following Figure.



Let *A P E P* be the Earth covered over with very deep Waters, *C* its Centre, *P P* its Poles, *A E* the Equinoctial, *F f* the Parallel of Latitude of a Place, *D d* another Parellel at equal Diſtance on the other ſide of the Equinoctial, *H h* the two Points where the Moon is Vertical; and let $K K$ be the great Circle wherein the Moon appears Horizontal.

It is evident, that a Spheroid deſcribed upon $H h$ and $K K$, ſhall nearly repreſent the Figure of the Sea; and $C f$, $C D$, $C F$, $C d$, ſhall be the Heights of the Sea in the Places f, D, F, d, in all which it is High-water: And ſeeing that in twelve Hours time, by the diurnal Rotation of the Earth, the Point F is transferr'd to f, and d to D; the Height of the Sea $C F$, will be that of the High-water, when the Moon is preſent, and $C f$ that of the other High-water, when the Moon is under the Earth; which in the Caſe of this Figure is leſs than the former $C F$.

And in the oppoſite Parallel $D d$, the contrary happens: The riſing of the Water being always alternately greater and leſs in each place, when it is produced by the Moon declining ſenſibly from the *Equinoctial*, that being the greateſt of the two High-waters in each Diurnal Revolution of the Moon, wherein ſhe approaches neareſt either to the *Zenith* or *Nadir* of the Place. Whence it is, that the Moon in the Northern Signs in this part of the World, makes the greateſt Tides when above the Earth, and in the Southern Signs when under the Earth; the Effect being always the greateſt where the Moon is fartheſt from the Horizon, either above or below it.

And this alternate Increaſe and Decreaſe of the Tides, has been obſerv'd to hold true on the Coaſt of *England*, at *Briſtol* by Captain *Sturmy*, and at *Plymouth* by Mr. *Colepreſs*.

But the Motions hitherto mention'd, are ſomewhat alter'd by the Libration of the Water; whereby tho the Action of the Luminaries ſhould ceaſe, the Flux and Reflux of the Sea would for ſome time continue: This Conſervation of the impreſſed Motion diminiſhes the Difference that otherwiſe would be between two conſequent Tides, and is the reaſon why the higheſt Spring-Tides are not preciſely on the New and Full Moons, nor the Neaps on the Quarters; but generally they are the third Tides after them, and ſometimes later.

All theſe things would regularly come to paſs, if the whole Earth were covered with Sea very deep; but by reaſon of the Shoalneſs of ſome Places, and the Narrowneſs of the Straits, by which the Tides are in many places propagated, there ariſes a great diverſity in the Effect, not to be accounted for, without an exact Knowledge of all the Circumſtances of the Places; as of the Poſition of the Land, and the Breadth and Depth of the Channels by which the Tide flows: for a very ſlow and imperceptible Motion of the whole Body of the Water, where it is (for example) two Miles deep, will ſuffice to raiſe its Surface 10 or 12 Feet in a Tide's time; whereas, if the ſame Quantity of Water were to be convey'd upon a Channel of 40 Fathom deep, it would require a very great Stream to effect it, in ſo large Inlets as are the Channel of *England*, and the *German* Ocean: whence the Tide is found to ſet ſtrongeſt in thoſe Places where the Sea grows narroweſt, the ſame Quantity of Water being to paſs thro' a ſmaller Paſſage. This is moſt evident in the *Straits* between *Portland* and *C. de Hogue* in *Normandy*, where the Tide runs like a Sluice, and would be yet more between *Dover* and *Calais*, if the Tide coming about the Iſland from the North did not check it. And this

Force being once impreſs'd upon the Water, continues to carry it about the Level of the ordinary height in the Ocean, particularly where the Water meets a direct Obſtacle, as it is in *St. Maloes*; and where it enters into a long Channel, which running far into the Land, grows very ſtrait at its Extremity, as it is in the *Severn-Sea* at *Chepſtow* and *Briſtol.*

The Shoalneſs of the Sea, and the intercurrent Continents, are the reaſon that in the open Ocean the Time of High-water is not at the Moon's Appulſe to the Meredian, but always ſome Hours after it, as it is obſerved upon all the Weſt Coaſt of *Europe* and *Africa,* from *Ireland* to the *Cape of Good Hope:* In all which, a *South-Weſt* Moon makes High-water; and the ſame is reported to be on the Weſt of *America.*

And from this Theory hath Dr. *Mead* very learnedly accounted for the Influences of the heavenly Bodies, and particularly of the Sun and Moon, upon the human Frame; by ſhewing the Conſent between the animal Fluids, and the Atmoſphere, and the Conſequences of their condenſing or rarefying, according to the Differences of external Preſſure.

Tincæ Os. See *Os Tincæ.*

Tincture, from *tingo,* to dye, is any Liquor ſaturated with Ingredients of any kind, See *Extraction.*

Tinea, is a Sore or Tetter that diſcharges a ſalt Lymph.

Titillation, is a Senſation of Pleaſure from the Touch of ſome Parts, but chiefly ſaid of thoſe concerned in Generation.

Toes: Theſe are made up of 14 Bones; the great Toe hath two, and the reſt have three each; they are like the Bones of the Fingers, but ſhorter. In the Toes are found twelve *Oſſa Seſamoidea,* as in the Fingers.

Tongue. See *Lingua.*

Tone, is a Term in Muſick ſignifying a certain Degree of Elevation or Depreſſion of Sound, from the greater or leſſer Tenſity of the Strings. And hence,

Tonic, is uſed for that tremulous Motion or Vibration of the Nerves and Fibres, in a human Body, which is much alter'd by their different Tenſion.

Tonſils, or *Almonds,* are two round Glands placed on the ſides of the Baſis of the Tongue, under the common Membrane of the *Fauces,* with which they are cover'd; each of them hath a large oval *Sinus,* which opens into the *Fauces,* and in it there are great number of leſſer ones, which diſcharge themſelves thro' the great *Sinus,* of a mucous and ſlippery Matter, into the *Fauces, Larynx,* and *Œſophagus,* for the moiſtning and lubricating theſe Parts. When the Muſcle *Œſophagus* acteth, it compreſſeth the *Tonſillæ.*

Tophus, is any gritty or earthy Matter abounding in ſome mineral Waters, and concreting upon the ſides of Veſſels they are long contained in, or to hard Bodies lying in them; whence alſo from its likeneſs thereunto it is applied to the chalky Subſtance which is ſometimes depoſited upon the Joints of arthritick Perſons.

Topicks, from τόπος, *Locus,* a Place, or Part; are ſuch Things as are externally apply'd to any particular Part.

Torcularis, a Preſs or Skrew; whence ſome Parts of the Body are thus called from their reſemblance thereunto in Shape, or for the Similitude of their Office. Hence alſo a Contrivance to ſtop Bleeding in

Amputations is by the Surgeons thus called.

Tormina, is uſed to expreſs Pains of any kind, and according to the Differences of Parts, or Symptoms, is variouſly diſtinguiſhed. But in a more particular manner we expreſs the Gripes, by *Tormina ventris.*

Toxica, is the name of a particular ſort of Poiſon, ſaid to be uſed by the *Indians* to their Arrows, in order to render Wounds made with them incurable.

Trachotomy, the ſame as *Bronchotomy*, which ſee.

Trachea. See *Aſpera Arteria.*

Tragea, is a Term that hath been uſed to expreſs Pouders groſly beat, but is now obſolete.

Tragus, is a Protuberance of the Ear oppoſite to the *Antitragus.* See *Ear.*

Tralucent, from *trans*, thro', and *luceo*, to ſhine; the ſame as tranſparent: which ſee.

Transfuſion, from *trans*, thro', and *fundo*, to pour; is chiefly uſed for the letting the Blood of one Animal out, ſo as to be immediately received by another; but this is found not reducible to any good purpoſe in the Practice of Phyſick, notwithſtanding what may be ſaid thereof in Theory.

Tranſmutation, from *trans*, thro', and *muto*, to change; hath been a Term much uſed amongſt Chymiſts for the changing one Metal into another: but ſuch Pretenſions are now only laughed at.

Tranſparent, from *trans*, thro', and *appareo*, to appear, is any thing that may be ſeen thro'; which probably is becauſe the Pores of ſuch Bodies are all right, and nearly perpendicular to the Plane of their Surface, and ſo conſequently do let the Rays of Light paſs freely thro' them, without being refracted.

Tranſpiration, from *trans*, thro', and *ſpiro*, to breathe, the ſame as Perſpiration; which ſee.

Tranſverſalis Abdominis, is a Muſcle that lies under the *Obliqui*, and ariſes from the *Cartilago Xiphoides*, from the Extremities of the falſe Ribs, from the tranſverſe *Apophyſes* of the *Vertebræ* of the Loins; it is fixed in the inner ſide of the Spine of the *Ilium*, and is inſerted in the *Os Pubis*, and *Linea alba*. This with the *Obliqui* (which ſee) unites its Tendons, as it approaches the *Linea alba*, and is the only Muſcle that is cut in the Operation of the *Bubonocele*; it has a fine and thin Membrane that cloſes exactly its Ring or Hole, thro' which the Veſſels paſs.

Tranſverſalis Colli, is a part of the

Tranſverſalis Dorſi: Some make three of this Muſcle, *viz.* the *Sacer*, the *Semiſpinatus*, and *Tranſverſalis Colli*. It ariſeth from the *Os Sacrum*, and from all the tranſverſe Proceſſes of the *Vertebræ* of the Loins, Back, and Neck, except the two firſt, and is inſerted by ſo many diſtinct Tendons to all their ſuperior Spines. It moves the whole Spine obliquely backwards.

Tranſverſalis Humeri, the ſame as *Teres minor*; which ſee.

Tranſverſalis Pedis, comes from the Bone of the *Metatarſus*, that ſuſtains the Toe next the little Toe, and paſſing acroſs the other Bones, it is inſerted into the *Os Seſamoides* of the great Toe: Its uſe is to bring all the Toes cloſe to one another.

Tranſverſalis Penis, ariſes from the *Iſchium*, juſt by the *Erectores*, and runs obliquely to the upper part of the Bulb of the *Urethra*. It helps to preſs the Veins upon the back of the *Penis* againſt the *Os*

Pupis, which is the Cauſe of Erection.

Trapezium, is a Species of a Quadrangle, conſiſting of four unequal ſides. Whence,

Trapezius, is a name given to the Muſcle *Cucullaris*, (which ſee) for its likeneſs in Shape thereunto.

Traumatick, from *τραυματίζω*, *vulnero*, to wound; are ſuch Medicines as are given in caſe of Wounds, inward Sores, or Bruiſes; the ſame as *Vulnerary*.

Trees, and Shrubs of our native Growth in *England*, are thus diſtinguiſhed by Mr. *John Ray*. I. Such as have their Flower disjoined and remote from the Fruit; and theſe are, 1. *Nuciferous ones*, or ſuch as bear Nuts, as the Walnut-Tree, the Hazle-Nut Tree, the Beach, the Cheſnut, and the common Oak. 2. *Coniferous ones*, or ſuch as bear a ſquamoſe or ſcaly Fruit, of a kind of conical Figure, and of a woody or hard Subſtance, in which are many Seeds, which when they are ripe, the Cone opens or gapes, in all its ſeveral Cells and Partitions, and ſo they drop out. Of this kind are the *Scotch* Firs, Male and Female; the Pine, which in our Gardens is called the *Scotch* Fir; the common Alder-Tree, and the Birch-Tree. 3. *Bacciferous ones*, or ſuch as bear Berries; as the Juniper and Yew Tree. 4. *Lanigerous ones*, or ſuch a bear a woolly downy Subſtance; as the black, white, and trembling Poplar, Willows and Oſiers of all kinds. 5. Such as bear their Seeds (having an imperfect Flower) in leafy Membranes or Caſes; as the Horn-beam or Hardbeam, called in ſome places the Hornbeech. II. Such as have their Fruits and Flowers contiguous; and theſe are either with the Flower placed on the Top of the Fruit, or elſe have it adhering to the Baſe or Bottom of the Fruit. 1. Trees and Shrubs with the Flower placed on the Top or Upper-part of the Fruit: Of theſe, ſome are *Pomiferous*, as Apples and Pears; and ſome *Bacciferous*, as the Sorb or Serviſe-Tree; the White or Haw-Thorn, the Wild Roſe, Sweet-brier, Currants, the great Bilbery-Buſh, Honey-Suckle, Ivy, *&c.* 2. Trees whoſe Flower adheres to the Baſe or Bottom of the Fruit, are either ſuch as have their Fruit moiſt and ſoft when ripe, as, (1.) *Pruniferous ones*, whoſe Fruit is pretty large and ſoft, with a Stone in the middle; as the Black-Thorn or Slow-Tree, the black and white Bullace-Tree, the Black Cherry, *&c.* (2.) *Bacciferous ones*, as the Strawberry-Tree in the Weſt of *Ireland*, Miſletoe, Water Elder, the Dwarf, a large Laurel, the Viburnum or way-faring Tree, the Dogberry-Tree, the Sea Black-Thorn, the Berry-bearing Elder, the Privet Barberry, common Elder, the Holly, the Buck-Thorn, the Berry-bearing Heath, the Bramble, and the Spindle-Tree or Prickwood. Such as have their Fruit dry when 'tis ripe; as the Bladder Nut-Tree, the Box-Tree, the common Elm and Aſh, the Maple, the *Gaule* or ſweet-Willow, common Heath, Broom, Dyers Weed, Furze or Gorſe, the Lime-Tree, *&c.*

Tremor, is an involuntary trembling of the Nerves, like a Palſy.

Trepanum, a Surgeon's Inſtrument to cut away any part of a Bone, particularly in Fractures of the Skull, and on ſome other Occaſions.

Triangularis Labii, called alſo *Depreſſor Labii ſuperioris*, is a Muſcle that ariſes from the lower Edge of the lower Jaw, between the *Maſſater* and the *Quadratus*, and aſcendeth by the Angle of the Mouth to the upper Jaw.

Triangularis Pectoris, is a Muſcle that ariſes from the lower Part of the inſide of the *Sternum*, and is inſerted into the Cartilages where they join the bones of the fourth, fifth, ſixth, and ſometimes ſeventh true Ribs: it helps to contract the Cavity of the Breaſt in Exſpiration.

Triceps, Three-headed is a Muſcle that hatn three Orignations, and alſo three Inſertions, and may be conveniently divided into three Muſcles: The firſt ariſes from the *Os Pubis*, and is inſerted in the *Linea Aſpera* of the Thigh-Bone; the ſecond ariſes from the lower part of the *Os Pubis*, and is inſerted about the middle of the *Linea Aſpera*; the third ariſes from the *Os Pubis*, where it joins the *Iſchium*, and is inſerted into the internal and lower *Apophyſes* of the Thigh-Bone. They pull the Thigh-Bone downwards, and turn it a little outwards.

Tricuſpides Valvulæ. See *Heart*.

Trine Dimenſion, or three-fold Dimenſion, is Length, Breadth, and Thickneſs.

Trituration, from *tero*, to wear, or grind, is reducing any Subſtances to Powder, upon a Stone with a Muller, as Colours are ground: it is alſo called *Lævigation*. See *Diſpenſatory*.

Trochanter, called alſo *Rotator*. There is the *major* and *minor*, or greater and leſſer; they are two *Apophyſes* in the upper part of the Thigh-Bone, in which the Tendons of many Muſcles are terminated.

Trochiſci, Troches; is a Form of Medicine to hold in the Mouth, to diſſolve as Lozenges, or for the Preſervation of Species that would otherwiſe decay.

Trochlea, a Pully, which is accounted one of the mechanical Powers. Hence,

Trochleares, is a Name given to the oblique Muſcles of the Eye, becauſe they pull the Eye obliquely upwards or downwards, as if turned like a Pully. And,

Trochloides, is a particular kind of Articulation, moſt remarkable in the firſt and ſecond *Vertebræ* of the Neck.

Tropici Morbi, are ſuch Diſeaſes as are moſt frequent under or near the Tropicks.

Trunchus, is the main Stem or Body of any thing, in diſtinction to Limbs or Branches, which ſpring therefrom.

Tubæ Fallopianæ. See *Generation Parts of, proper to Women*.

Tuberculæ, Tubercles, are little Tumours that ſuppurate and diſcharge *Pus*, often found in the Lungs.

Tuberous, is a Term applied to ſuch Roots as are knobby, from *Tuber*, ſignifying ſtrictly a Truffle, or a ſubterraneous Muſhroom, which ſuch Roots reſemble.

Tumor, a Swelling, expreſſes every kind of preternatural riſing on the Body, and is diverſify'd and diſtinguiſhed into ſubordinate Species by the particular Circumſtances or Accidents attending them.

Tunica Albuginea, the white Membrane. See *Generation Parts of, proper to Men*.

Tunica Cornea. See *Cornea*.

Tunica Retiformis, the Net-like Membrane. See *Amphibleſtroides*.

Tunica Vaginalis. See *Generation Parts of, proper to Women*.

Turbo, ſignifies the Covering which ſome Countries wear upon their Heads of a conick Figure. Whence in natural Philoſophy,

Turbinated, is apply'd to the Parts of Plants, and many other things that have reſemblance to a Turbant in Shape, or are of a conical Figure.

Turgeſcence, is any Over-fulneſs or Swelling.

Turiones, are the firſt, young, tender Shoots which Plants do annually put forth.

Turunda, and

Turundula, ſignify a Tent for a wound, or any thing to be thruſt into an Orifice or Capacity.

Tuſſis, a Cough, proceeds from various Cauſes, and is therefore as variouſly to be treated.

Tympanites, from τυμπανίζω, to ſound like a Drum; is that particular ſort of Dropſy that ſwells the Belly up like a Drum, and is often cured by Tapping: from

Tympanum, a Drum, which is, for its Reſemblance thereunto, applied to a part of the Ear; which ſee.

Typus, is the conſtant order obſerved by a Fever, in its intention and remiſſion, ſignifying the ſame with Period or Circuit, from τύπτω, *Verbero*, to beat or afflict.

V.

V*Acuum*. See *Laws of Nature*, under the Word *Nature*.

Vagina. See *Generation Parts of, proper to Women*.

Vagina Hepatica, the ſame as *Capſula Communis*; which ſee. And,

Vaginalis Tunica, the ſame as *Elythroides*, which ſee under *Generation, parts of* proper to Women. The forementíon'd Parts are all diſtinguiſhed by this Name from their Shape; *Vagina* ſignifying a Sheath, Scabbard, or Caſe.

Valetudinarian, is uſed for a ſickly Perſon, or one always anxious about his Health; becauſe,

Valetudo, ſignifies ſtrictly Health; but is ſometimes alſo uſed for a diſtemper'd Habit.

Valves, are little thin Membranes in the Veſſels, as it were, like folding Doors, to prevent a Reflux of any Fluid by the ſame Canal. They have different Names according to the diverſity of their Shapes, as *Sigmoides*, *Semilunares*, *&c.*

Valvulæ Conniventes. See *Inteſtines*.

Vapours, in a medical Senſe, ſignifies pretty much the ſame as Hyſterical Affection; which ſee: but in Phyſicks, any watry Exhalations. On which Subject Dr. *Halley* hath ſhewn, That if an Atom of Water be expanded into a Shell or Bubble, whoſe Diameter ſhall be ten times as great as before, ſuch an Atom will be ſpecifically lighter than Air, and will riſe ſo long as that Flatus, or warm Spirit, which firſt ſeparated it from the Maſs of Water, ſhall continue to diſtend it to the ſame degree. But then that Warmth declining, and the Air growing cooler, and withal ſpecifically lighter, theſe Vapours will ſtop at a certain Region of the Air, or elſe deſcend.

If therefore it ſhould be ſuppoſed, that the whole Earth were covered with Water, and that the Sun, as now, ſhould make his diurnal Courſe round it, this learned Perſon thinks, That the Air would be impregnated with a certain Quantity of aqueous Vapours, which it would retain in it like Salts diſſolved in Water; and that the Sun in the day-time warming this Air, that Part of the Atmoſphere would ſuſtain a greater Proportion of Vapours, (as warm Water will hold more Salt diſſolved in it than cold) which on the abſence of the Vapours at night would be diſcharged in Dews.

And in this Caſe he concludes, there could be no Diverſity of Weather, other than periodically every Year alike; the Mixture of all terreſtrious, ſaline and heterogeneous Vapours being here excluded: which he judges to be, when variouſly compounded and driven by Winds, the Cauſes of thoſe various Seaſons and Changes of Weather which we now find.

But if inſtead of an Earth covered all over with Water, you ſuppoſe the Sea interſperſed about wide and ſpacious Tracts of Land, and alſo divided by high Ridges of Mountains, ſuch as the *Pyrenean*, the *Alps*, and the *Apenine*, in *Europe*; *Taurus*, *Caucaſus*, *Imaus*, *&c.* in *Aſia*; Mount *Atlas*, and the *Mountains of the Moon* in *Africa*; and the *Andes*, and *Apalatean* Mountains in *America*: each of which far ſurpaſſes the uſual Height to which the aqueous Vapours of themſelves aſcend, and on the Tops of which the Air is ſo cold and rarefy'd, as to retain but a ſmall Part of thoſe Vapours which are brought thither by the Winds.

The Vapours therefore thus raiſed from the Sea, and by the Winds carried over the low Lands to thoſe Ridges of Mountains, are there compelled by the Stream of the Air to mount with it up to their Tops, where the Water preſently precipitates, gleeting down by the Crannies of the Stones; and part of the Vapour entring into the Caverns of the Hills, the Water thereof gathers, as in an Alembick, in the Baſons of Stone: and theſe being once full, the Overplus of the Water runs down at the loweſt Place of the Baſon, and breaking out by the ſides of the Hills, forms ſingle Springs; many of which running down by the Valleys, between the Ridges of the Hills, and after uniting, form little Rivulets, or Brooks; and many of theſe meeting again in a common Channel, from large Rivers.

Varicoſum Corpus, the ſame as *Corpus Pyramidale*; which ſee.

Variolæ, the Small-Pox, a Diſtemper well known, and to be ſo variouſly diverſify'd, that it requires a great Variety in the Method of Management.

Varix, is a little Dilatation in the Veins, where the Blood turns in a kind of Eddy, and makes a knot upon the Part.

Vas Breve, is a ſhort Vein paſſing from the Stomach to the Spleen. And,

Vaſa, is applied to all the Parts of the Body having any reſemblance to Veſſels, which are according to the Parts or Offices diſtinguiſhed into *Deferentia*, *Præparantia*, *Lactea*, *Seminalia*, &c.

Vaſculiferous, are ſuch Plants as have, beſides the common *Chalyx*, a peculiar Veſſel to contain the Seed; ſometimes divided into Cells: and theſe have always a monopetalous Flower, either uniform or difform.

Vaſtus Externus, is a Muſcle that comes from the Root of the great *Trochanter*, and part of the *Linea Aſpera*. And,

Vaſtus Internus, ariſes from the Root of the leſſer *Trochanter*. They both help to extend the Leg.

Vegetables, are natural Bodies having Parts organically formed, but without Senſation. Of Vegetation Dr. *Woodward* hath made ſome uſeful Experiments, as followeth.

An. Dom. 1691. I choſe (ſaith he) ſeveral Glaſs Phials, that were all, as near as poſſible, of the ſame

A. *Common Spear-Mint : Spring-Water.*				
Weight of the Plant when firſt put in Water.	Weight of the Plant when taken out of the Water.	Weight gained by the Plant during the 77 Days.	Weight of the Water expended upon the Plant.	Proportion of the Increaſe of the Plant to the Expence of the Water.
27 Grains.	42 Grains.	15 Grains.	2558 Grains.	As 1 to 170 $\frac{8}{13}$,
B. *Common Spear-Mint : Rain-Water.*				
28 $\frac{1}{4}$ Gr.	45 $\frac{3}{5}$ Gr.	17 $\frac{1}{2}$ Gr.	3004 Gr.	As 1 to 171 $\frac{23}{55}$.
C. *Common Spear-Mint : Thames-Water.*				
28 Gr.	54 Gr.	26 Gr.	2493 Gr.	As 1 to 95 $\frac{23}{26}$.
D. *Common Solanum, or Nightſhade : Spring-Water.*				
49 Gr.	106 Gr.	57 Gr.	3708 Gr.	As 1 to 65 $\frac{3}{57}$.
E. *Lathyres* ſeu *Cataputia Gerh. Spring-Water.*				
98 Gr.	101 $\frac{1}{2}$ Gr.	3 $\frac{1}{2}$ Gr.	2501 Gr.	As 1 to 714 $\frac{4}{7}$.

Shape and Bigneſs. After I had put what Water I thought fit into every one of them, and taken an account of the Weight of it, I ſtrain'd and tied over the Orifice of each Phial a Piece of Parchment, having a Hole in the Middle of it, large enough to admit the Stem of the Plant I deſigned to ſet in the Phial, without confining or ſtraitening it, ſo as to impede its Growth. My Intention in this was to prevent the encloſed Water from evaporating or aſcending any other way than only thro' the Plant to be ſet therein.

Then I made choice of ſeveral Sprigs of Mint, and other Plants, that were, as near as I could poſſibly judge, alike freſh, ſound and lively. Having taken the Weight of each, I placed it in a Phial, ordered as above; and as the Plant imbibed and drew off the Water, I took care to add more of the ſame from time to time, keeping an account of the Weight of all I added. Each of theſe Glaſſes were for better Diſtinction, and the more eaſy keeping a Regiſter of all the Circumſtances, noted with a different Mark or Letter, *A*, *B*, *C*, &c. and all ſet in a row in the ſame Window, ſo that all might partake alike of Air, Light, and Sun. Thus they continued from *July* the 20th to *October* the 5th, which was juſt 77 days. Then I took them out, weighed the Water in each Phial, and the Plant likewiſe, adding to its Weight that of all the Leaves that had fallen off during the time it ſtood thus. And laſtly, I computed how much each Plant had gained, and how much Water was ſpent upon it. The Particulars are as follows.

A. *Common Spear-Mint*, ſet in *Spring-Water*.

The Plant weighed, when put in *July* 20. juſt 27 Grains; when taken out *Octob.* 5. 42 Grains: ſo that in this Space of 77 Days, it had gain'd in Weight 15 Grains.

The whole Quantity of Water expended during the 77 Days, amounts to 2558 Grains; conſequently the Weight of the Water taken up, was 170$\frac{8}{13}$ times as much as the Plant had got in Weight.

The Specimen *D* had ſeveral Buds upon it when firſt ſet in Water; theſe in ſome days became fair Flowers, which were at length ſucceeded by Berries. Several other Plants were tried, that did not thrive in Water, or ſucceed any better than the *Cataputia* foregoing.

The Phials *F* and *G* were filled, the former with Rain, and the other with Spring-Water, at the ſame time as thoſe above-mentioned were, and ſtood as long as they did; but they had neither of them any Plant: my Deſign in this being only to inform my ſelf whether any Water exhaled out of the Glaſſes, otherwiſe than thro' the Bodies of the Plants. The Orifices of theſe two Glaſſes were cover'd with Parchment, each Piece of it being perforated with a Hole of the ſame bigneſs with thoſe of the Phials above: In this I ſuſpended a bit of Stick about the thickneſs of the Stem of one of the aforeſaid Plants, but not reaching down to the Surface of the included Water. I put them in thus, that the Water in theſe might not have more Scope to evaporate than that in the other Phials.

Thus they ſtood the whole 77 days in the ſame Window with the reſt; when, upon Examination, I found none of the Water in theſe waſted or gone off: tho I obſerved, both in theſe and the reſt, eſpecially after hot Weather, ſmall Drops of Water, not unlike Dew, adhering to the Inſides of the Glaſſes; that

H. *Hyde-Park Conduit Water alone.*				
The Weight of the Plant when firſt ſet in Water.	Weight of the Plant when taken out of the Water.	What gained by the Plant during the 56 Days.	What of the Water is expended upon the Plant.	Proportion of the Increaſe of the Plant to the Expence of the Water.
127 Grains.	255 Grains.	128 Grains.	14190 Grains.	As 1 to 110 $\frac{11}{12}$.
I. *The ſame Water, alone.*				
110 Gr.	249 Gr.	139 Gr.	13140 Gr.	As 1 to 94 $\frac{74}{153}$.
K. *The ſame Water, with an Ounce and a half of common Garden Earth diſſolved in it.*				
76 Gr.	244 Gr.	168 Gr.	10731 Gr.	As 1 to 63 $\frac{147}{168}$.
L. *Hyde-Park Water, with the ſame Quantity of Garden Mould as the former.*				
92 Gr.	376 Gr.	284 Gr.	14950 Gr.	As 1 to 52 $\frac{182}{284}$.
M. *Hyde-Park Water, diſtilled with a gentle Fire.*				
114 Gr.	155 Gr.	41 Gr.	8803 Gr.	As 1 to 214 $\frac{29}{41}$.
N. *The Reſidue of the Water which remained in the Still after that in* M *was diſtilled off.*				
81 Gr.	176 Gr.	94 Gr.	4344 Gr.	As 1 to 46 $\frac{20}{94}$.

part of them, I mean, that was above the Surface of the encloſed Waters.

The Water in theſe two Glaſſes that had no Plants in them, at the end of the Experiment, exhibited a larger Quantity of terreſtrial Matter than that in any of thoſe that had the Plants in them did. The Sediment in the bottom of the Vials was greater, and the *Nubeculæ* diffuſed thro' the Body of the Water thicker. And of that which was in the others, ſome of it proceeded from certain ſmall Leaves that had fallen from that part of the Stems of the Plants that was within the Water, wherein they rotted and diſſolved. The Terreſtrial Matter in the Rain-Water, was finer than that in the Spring-Water.

Experiments, Anno 1692.

The Glaſſes made uſe of in this were of the ſame ſort with thoſe of the former Experiment; and covered over with Parchment in like manner.

The Plants here were all Spearmint, the moſt kindly, freſh, ſprightly Shoots I could chuſe. The Water and the Plants were weighed as above, and the Phials ſat in a Line, in a South Window, where they ſtood from *June* the 2d, to *July* the 28th, which was juſt 56 Days.

H was all along a very kindly Plant, and had run up above two Foot in height. It had ſhot but one conſiderable collateral Branch; but had ſent forth many and long Roots, from which ſprung very numerous, tho ſmall and ſhort leſſer Fibres. Theſe leſſer Roots came out of the larger on two oppoſite Sides for the moſt part; ſo that each Root, with its *Fibrillæ*, appeared not unlike a ſmall Feather. To theſe *Fibrillæ*, adhered pretty much terreſtrial Matter. In the Water, which was at the laſt thick and turbid, was a green Subſtance, reſembling a fine thin *Conſerva*.

The Plant *I* was as kindly as the former, but had ſhot no collateral Branches. Its Roots, the Waters, and the green Subſtance, all much as in the former.

The Plant *K*, tho it had the misfortune to be annoyed with very ſmall Inſects that happened to fix upon it, yet had ſhot very conſiderable collateral Branches, and at leaſt as many Roots as either in *H* or *I*, which had a much greater Quantity of terreſtrial Matter adhering to the Extremitys of them. The ſame green Subſtance here that was in the two preceding.

The Plant *L* was far more flouriſhing than any of the precedent; had ſeveral conſiderable collateral Branches, and very numerous Roots, to which terreſtrial Matter adhered very copiouſly.

The Earth in both theſe Glaſſes was very ſenſibly and conſiderably waſted, and leſs than when firſt put in. The ſame ſort of green Subſtance here as in thoſe above.

The Plant *M* was pretty kindly; had two ſmall collateral Branches, and ſeveral Roots, tho not ſo many as that in *H* or *I*; but as much terreſtrial Matter adhering to them, as thoſe had. The Water was pretty thick, having very numerous ſmall terreſtrial Particles ſwimming in it, and ſome Sediment at the bottom of the Glaſs. This Glaſs had none of the green Matter above-mentioned in it.

The Plant *N* was very lively, and had ſent out ſix collateral Branches, and ſeveral Roots.

The Glaſs *O* had alſo *Hyde-Park* Conduit-Water, in which was diſſolved a Dram of Nitre. The Mint ſet in this ſuddenly began to wither and decay, and died in a few days, as likewiſe did two more Sprigs that were ſet in it ſucceſſively. In another Glaſs I diſſolved an Ounce of good Garden Mould, and a Dram of Nitre. And in a third half an Ounce of Wood-Aſhes, and a Dram of Nitre; but the Plants in theſe ſucceeded no better than in the former. In other Glaſſes I diſſolved ſeveral ſorts of Earth, Clay, Marls, and variety of Manures, *&c.* I ſet Mint in diſtilled Mint-Water; and other Experiments I made of ſeveral kinds, to get Light and Information as to what haſtened or retarded, promoted or impeded Vegetation.

The Glaſs *P*, *Hyde-Park*-Conduit Water: In this I fixed a Glaſs Tube of ten Inches long, the Bore about one ſixth of an Inch in Diameter, filled with very fine and white Sand, which I kept from falling down out of the Tube into the Phial, by tying a thin Piece of Silk over that end of the Tube that was downwards. Upon Immerſion of the lower end of it into the Water, this by little and little, aſcended quite to the upper Orifice of the Tube: and yet in all the 56 Days which it ſtood thus, a very inconſiderable Quantity of Water had gone off, *viz.* ſcarcely 20 Grains, tho the Sand continued moiſt up to the top, till the very laſt. The Water had imparted a green Tincture to the Sand, quite to the very top of the Tube: And in the Phial, it hath precipitated a greeniſh Sediment, mix'd with black. To the bottom and ſides of the Tube, as far as 'twas immerſed in the Water, adhered pretty much of the green Subſtance deſcribed above. Other-like Tubes I filled with Cotton, Lint, Pith of Elder, and ſeveral other porous vegetable Subſtances, ſetting ſome of them in clear Water, others in Water tinged with Saffron, Cochineal, *&c.* And ſeveral other Trials were made, in order to give a mechanical Repreſentation of the Motion and Diſtribution of the Juices in Plants, and of ſome other *Phænomena* obſervable in Vegetation. Several Plants being alſo ſet in the Phials, Q, R, S, *&c.* ordered in like manner as thoſe above, in *October*, and the following colder Months; theſe throve not near ſo much, nor did the Water aſcend in nigh the Quantity it did in the hotter Seaſons, in which the before-cited Trials were made.

Vehicle, in general, ſignifies what carries or bears any thing along; as the *Serum* is the Vehicle to convey the Blood-Particles; and in Pharmacy any Liquid to dilute another with, or to adminiſter it in to a Patient, is thus called.

Velocity, is the Degree of Motion in any Body; the ſame as Celerity.

Vena, a Vein. The Veins are only a Continuation of the extreme Capillary Arteries, reflected back again towards the Heart, and uniting their Channels as they approach it, till at laſt they all form three large Veins; the *Cava Deſcendens*, which brings the Blood back from all the Parts above the Heart; the *Cava Aſcendens*, which brings the Blood from all the Parts below the Heart; and the *Porta*, which carries the Blood to the Liver. The Coats of the Veins are the ſame with thoſe of the Arteries, only the muſcular Coat is as thin in all the Veins, as it is in the capillary Arteries; the preſſure of the Blood againſt the ſides of the Veins being leſs than that againſt the ſides of the Arteries. In the Veins there is no Pulſe, becauſe the Blood is thrown into them with a continued Stream, and becauſe it moves from a narrow Channel to a wider. The capillary Veins unite with one another, as has been ſaid of the capillary Arteries. In all the Veins which are perpendicular to the Horizon, excepting thoſe of the *Uterus* and of the *Porta*, there are ſmall Membranes or Valves; ſometimes there is only one, ſometimes there are two, and ſometimes three placed together, like ſo many half Thimbles ſtuck to the ſides of the Veins, with their Mouths towards the Heart. In the Motion of the Blood towards the Heart, they are preſſed cloſe to the ſides of the Veins; but if Blood ſhould fall back, it muſt fill the Valves; and they being diſtended, ſtop up the Channel, ſo that no Blood can repaſs them.

The Veins are beſt deſcribed by beginning with their Trunks. The Trunk of the *Cava Deſcendens* joins the Trunk of the *Cava Aſcendens*, and both together open into the right Auricle of the Heart. On the inſide of the Vein where the Trunks join, there is a ſmall Protuberance, which hinders the Blood that comes from the upper-parts, from falling upon that from the inferior Parts, but diverts both into the Auricle, where the *Cava Deſcendens* joins the Auricle; it receives the coronary Vein of the Heart. As ſoon as it pierces the *Pericardium*, it receives the Ἄζυγος, or *Vena ſine Pari*; this Vein runs along the right ſide of the *Vertebræ* of the *Thorax*, and is made by the Union of the Veins of the Ribs on each ſide. Its ſmall end, at the *Diaphragma*, is divided into two Branches, which communicate with a Vein, ſometimes from the Emulgents, and ſometimes from the *Cava Aſcendens*. The *Cava Deſcendens* receives next the *Intercoſtalis Superior*, which is diſtributed in the Interſtices of the four firſt Ribs, to which the *Azygos* comes not. Remark, That the Branches both of the one and the other run in the *Sinus's* which are on the lower ſides of the Ribs. *Sanmichellius* hath obſerved, that the Trunk of the *Cava Deſcendens* receives a Branch called *Pneumonica*; 'tis this Branch which accompanys the *Arteria Bronchialis* of M. *Ruyſch*. The Trunk of the *Cava Deſcendens*, as ſoon as it comes to the *Claviculæ*, where it is ſuſtain'd by the *Thymus*, is divided into two Branches, the one goes to the right, the other to the left; they are call'd *Subclaviæ*, which receive ſeveral other Branches: The firſt is the *Mammaria*, which comes ſometimes into the *Cava*, before it divides into the *Subclaviæ*; this Vein is diſtributed in the Breaſts, and frequently it goes lower, and makes an *Anaſtomoſis* with ſome Branches of the *Epigaſtrica*. The ſecond is the *Mediaſtina*, which is ordinarily one opening into the Trunk of the *Cava*, it goes to the *Mediaſtinum* and *Thymus*. The third is the *Cervicalis* or *Vertebralis*, which goes up the *Vertebræ* of the Neck, and caſts ſome Branches by the bye to the *Medulla Spinalis*. The fourth is the *Muſcula inferior*, which comes ſometimes into the Jugulars; 'tis diſtributed thro' the inferior Muſcles of the Neck, and the ſuperior of the Breaſt. The Branch that anſwers this, is call'd *Muſcula Poſterior*, becauſe 'tis diſtributed in the Muſcles which are in the hind part of the Neck. After that the *Rami Subclavii* are come out of the Cavity of the Breaſt, they are called *Axillares*; they receive the *Scapularis internus* and *externus*, which go to the Muſcles of the *Scapula*, and to the Glands in the

Arm-pits: then they are divided into two Branches; the ſuperior is called *Cephalica*, and the inferior *Baſilica*. Into the *Baſilica* open the *Thoracica ſuperior*, which goes to the Dugs and Muſcles of the Breaſt; and the *Thoracica inferior*, which ſpreads it ſelf upon the ſide of the Breaſt, by ſeveral Branches which communicate by *Anaſtomoſis* with the Branches of the *Azygos*, under the Muſcles of the Breaſt. The *Subclavii* receive alſo the *Jugulares externi & interni*, which go to the Head. The *Jugulares externi* aſcend towards the Ears, where they divide in two Branches, the one internal, the other external. The internal goes to the Muſcles of the Mouth, and of the *Os Hyoides*. The external lying upon the *Parotides*, divide into two Branches, of which one is ſpread thro' all the Face, and the Branches of the one ſide unite with thoſe on the other ſide, and form the *Vena Frontis*: The other Branch goes to the Temples and hind Head. The *Jugulares interni* aſcend to the Baſis of the *Cranium*, where they are divided into two Branches, of which the greateſt open into the *Sinus Lateralis* of the *Dura Mater*, by the Holes thro' which the eighth Pair of Nerves come out; the leaſt goes to the *Pia Mater*, by the Hole which is nigh the *Cella Turcica*. The *Baſilica* and *Cephalica* are the two principal Veins of the Arms and Hands. The *Cephalica* creeps along the Arm between the Skin and the Muſcles; it divides into two Branches: The external Branch goes down to the Wriſt, where it joins the *Baſilica*, and turns up to the back of the Hand, where it gives a Branch which makes the *Salvatella* between the Ring-Finger, and the little Finger. The Antients uſed to open this Vein in Diſeaſes of the Head, in continued and intermiting Fevers: but the Moderns approve not of this particular Practice; ſince the Knowledge of the Circulation of the Blood, there is no difference whether one be blooded in the *Cephalica*, *Mediana*, or *Baſilica*. The internal Branch of the *Cephalica*, together with a Branch of the *Baſilica*, makes the *Mediana*. The *Baſilica*, which is the inferior Branch of the *Axillaris*, divides into three Branches, under the Tendon of the *Muſculus Pectoralis*. The firſt Branch accompanies the fourth Branch of Nerves that goes to the Arm. The ſecond is call'd *Profundus*; it reaches below the Elbow, where it divides into two Branches; the one external, which goes to the Thumb, the Fore-finger, and to the *Muſculi Extenſores Carpi*; the other internal, which goes to the Middle-finger, to the Ring-Finger, to the little Finger, and to the inner Muſcles of the Hand. The third Branch is called *Subcutaneous*, towards the inner Condyle of the Arm; it divides into the *Ramus Anterior* and *Poſterior*: The firſt goes under the Muſcles of the *Ulna* to the little Finger, where it joins a Branch of the *Cephalica*; the ſecond, near to the Elbow, ſends out a Branch which goes to the Wriſt; then it unites with the *Cephalica Interior*, and forms the *Mediana*. The *Mediana*, which is made of the *Cephalica Interior*, and the ſecond Branch of the *Ramus Subcutaneus* of the *Baſilica*, divides into two Branches upon the *Radius*; the one external, called *Cephalica Pollicis*, which runs between the Thumb and the Fore-finger; the other internal, which goes between the Ring-finger and the Middle-finger, and ſometimes between this laſt and the Fore-finger. The Trunk of the *Cava Aſcendens*, between the Heart and the *Diaphragma*, does not lie upon the *Vertebræ*, but runs at a ſmall diſtance from them. At the *Diaphragma* it receives the *Phrenica* or *Diaphragmatica*. When it has pierced the *Diaphragma*, it receives ſome large Branches from the Liver; then the *Cava Aſcendens* accompanies the great Artery from the Liver to the fourth *Vertebra* of the Loins, where it divides into two great Branches call'd *Iliaci*; but before this diviſion, it receives four Branches from each ſide. The firſt is the *Vena Adipoſa*, or *Renalis*, which is ſpread on the Coat and Fat that covers the Reins. The ſecond is the *Vena Emulgens*, which goes to the Kidney, where it divides into ſeveral more Branches. The third is the *Vena Spermatica*, deſcrib'd under *Parts of Generation*, which ſee. The fourth is the *Vena Lumbaris*, which is not always one, but often two or three on each ſide, which they divide into ſuperior and inferior; they are beſtowed on the Muſcles of the Loins, and on the *Peritonæum*. They ſometimes call the laſt Branch of the *Lumbaris*, *Muſcula ſuperior*.

There are ſome Anatomiſts who have obſerved, that there is a Branch of the *Lumbaris* which enters the Cavity of the *Vertebræ*, and aſcends to the Brain; which gave them occaſion to think, againſt all probability, that the Seed deſcended by that Vein from the Brain. A little below the Emulgents, the great Artery goes above the *Cava*: and then the *Cava* divides into two Branches call'd *Iliacæ*, becauſe they paſs above the *Ilia* to go to the Thighs. Near this diviſion they receive one or two Branches call'd *Venæ Sacræ*; they go to the *Medulla* of the *Os Sacrum*. Then the *Venæ Iliacæ* divide into two Branches, the one internal, the other external. The internal receives two Branches, the *Muſcula Media*, which is ſpread thro' the Muſcles of the Thigh; the *Hypogaſtrica*, which is ſometimes double, and ſpread about the *Sphincter* of the *Anus*; therefore 'tis call'd the *Hæmorrhoidalis Externa*. The *Hypogaſtrica* is ſpread alſo upon the Body of the Bladder, upon the *Matrix* and its Neck. The external Branch of the *Iliacæ* receives three Branches, two before it goes out of the *Peritonæum*, and the third after it goes out of it. The firſt is the *Vena Epigaſtrica*, which comes rarely into the *Cruralis*; it goes to the *Peritonæum*, aſcends to the *Muſculi Recti*, where it rencounters the *Mammariæ*, with which it communicates by *Anaſtomoſis*. The ſecond is the *Vena Pudenda*; 'tis ſpread upon the Parts of Generation. The third is the *Muſcula Inferior*, it goes towards the Articulation of the *Femur*, and is diſtributed to the Muſcles of this Part. The *Iliaca Exterior*, after it hath received all theſe Branches, takes the name *Cruralis*, and then receives ſix Branches more. The firſt is the *Vena Saphæna*, which goes down under the Skin along the inſide of the Thigh and Leg, accompanied with a Nerve which loſes it ſelf at the inner Ankle. The *Saphæna* turns towards the upper part of the Foot, where it gives ſeveral Branches, of which ſome go to the great Toe. The ſecond is the *Iſchias minor*, this Vein is little; 'tis ſpent on the Muſcles and Skin which are about the upper joint of the *Femur*. The third is the *Muſcula Externa*, becauſe it goes to the external Muſcles of the Thigh. On the other ſide of the *Cruralis*, juſt oppoſite to the beginning of this Vein, there goes out another call'd *Muſcula Interna*, which goes to the in-

internal Muſcles of the Thigh. The fourth is the *Poplitæa*, made of two different Branches united together; it goes ſtrait down by the Ham to the Heel; it lies pretty deep, upon which account it can hardly be open'd. The Branches which appear in this place are not of this Vein. The fifth is the *Suralis*, which is pretty big, and which divides into two Branches, the one external, which is leaſt, the other internal, which is biggeſt. Each of theſe Branches divide again into two more; the one external, the other internal. The *Suralis* diſtributes its Branches upon the Fat of the Leg, and makes with the Branches of the *Poplitæa*, all thoſe *Plexus* of Veins which are conſpicuous on the upper part of the Foot. The ſixth and laſt Branch of the *Cruralis* is the *Iſchias Major*, which goes alſo to the Muſcles and Fat of the Leg, and is divided afterwards into ſeveral Branches, which are diſtributed to the Toes.

Venenum, Poiſon; which ſee.

Venerea Lues. See *Lues*.

Veneris OEſtrum, the Heat of Love; expreſſes the utmoſt Extaſy or Deſire of Enjoyment in Coition. And ſome are of opinion, that infectious Women are moſt apt to communicate the Poiſon to another when they are thus excited with Deſire; whereas with Indifference they might admit the ſame Intercourſe without giving the Infection.

Venter, ſignifies any Cavity, and is chiefly applied to the Head, Breaſt, and *Abdomen*, which are called the three Venters. Hence alſo,

Ventricle, is a Diminutive of the former, and applied to more contracted Diviſions, as ſome particular Parts of the Brain, Stomach, *&c.* which ſee.

Ventriloqui, ἐγγαστρίμυθοι, Perſons who pretended to emit articulate Sounds out of their Stomachs, and were ſuppoſed to be under Poſſeſſion of ſome evil Spirit.

Veratrum, a Name for *Hellebore*.

Vermes, Worms. Whence,

Vermicular, is applied to many Parts of the Body, for their reſemblance either in Shape, or Motion, to Worms.

Vermicular Pulſe, is a greater Degree of the *Formicans Pulſus*; which ſee.

Vermifuge, from *Vermis*, a Worm, and *fugo*, to put to flight, is any Medicine that deſtroys or expels Worms.

Vernacular, is any thing that is particular to a Country. Whence Diſeaſes that reign moſt in any particular Country are thus called.

Verruca, is a Wart: And,

Verrucous, is applied to any Excreſcencies having reſemblance to a Wart.

Vertebræ: The Spine includes all the Bones that are thus called; and by it we underſtand that Chain of Bone which reaches from the firſt *Vertebra* of the Neck to the *Os Coccygis*; they are twenty four in number, beſides thoſe of the *Os Sacrum*, ſeven *Vertebræ* of the Neck, twelve of the Back, and five of the Loins; they lie not in a ſtrait Line, for thoſe of the Neck bend inwards, thoſe of the Back outwards, for enlarging the Cavity of the *Thorax*: thoſe of the Loins bend inwards again, and thoſe of the *Os Sacrum* outwards, to enlarge the Cavity of the Baſon. In each *Vertebra* we diſtinguiſh two Parts, the Body of the *Vertebra*, and its Proceſſes; the Body is ſofter and more ſpongious than the Proceſſes, which are harder and more ſolid. The fore-part of the Body is round and convex, the hind-part ſomewhat concave; its up-

upper and lower ſides are plain, each covered with a Cartilage which is pretty thick forwards, but thin backwards, by which means we bend our Body forwards: for the Cartilages yield to the preſſure of the Bodies of the *Vertebræ*, which in that Motion come cloſer to one another. This could not be effected, if the harder Bodies of the *Vertebræ* were cloſe to one another. Each *Vertebra* has three ſorts of Proceſſes towards its hinder part, two tranſverſe or lateral, one on each ſide; they are nearer the Body of the *Vertebra* than the reſt. In each of them there is a Tendon of the Vertebral Muſcles inſerted. Four oblique Proceſſes, two on the upper part, and two on the lower, by theſe *Vertebræ* are articulated to one another; and one acute on the hindermoſt part of the *Vertebra*. Theſe Proceſſes, with the hinder or concave part of the Body of the *Vertebræ*, form a large Hole in each *Vertebra*; and all the Holes anſwering one another, make a Channel for the deſcent of the Spinal Marrow, which ſends out its Nerves to the ſeveral Parts of the Body by Pairs, thro' two ſmall Holes formed by the joining of four Notches in the ſides of each ſuperior and inferior *Vertebra*. The *Vertebræ* are articulated to one another by a *Ginglymus*; for the two deſcending oblique Proceſſes of each ſuperior *Vertebra* of the Neck and Back have a little dimple in their Extremities, wherein they receive the Extremities of the two aſcending oblique Proceſſes of the inferior *Vertebræ*; ſo that the two aſcending Proceſſes of each *Vertebra* of the Neck and Back are received, and the two deſcending do receive, except the firſt of the Neck, and laſt of the Back; but the aſcending Proceſſes of each *Vertebra* of the Loins receive, and the two deſcending are received contrary to thoſe of the Neck and Back. The *Vertebræ* are all tied together by a hard Membrane made of ſtrong and large Fibres: It covers the Body of all the *Vertebræ* forwards, reaching from the firſt of the Neck to the *Os Sacrum*: There is another Membrane which lines the Canal, made by the large Hole of each *Vertebra*, which alſo ties them all together. Beſides, the Bodies of each *Vertebra* are tied to one another by the intervening Cartilages; and the Tendons of the Muſcles, which are inſerted in their Proceſſes, tie them together behind. This Structure of the *Spine* is the very beſt that can be contrived; for had it been all one Bone, we could have had no motion in our Backs; had it been of two or three Bones articulated for motion, the *Medulla Spinalis* muſt have been neceſſarily bruiſed at every Angle or Joint: beſides, the whole would not have been ſo pliable for the ſeveral Poſtures we have occaſion to put our ſelves in. If it had been made of ſeveral Bones without intervening Cartilages, we ſhould have had no more Uſe of it, than if it had been but one Bone. If each *Vertebra* had had its own diſtinct Cartilages, it might have been eaſily diſlocated. And laſtly, the oblique Proceſſes of each ſuperior and inferior *Vertebra* keep the middle one, that it can neither be thruſt backwards nor forwards to compreſs the *Medulla Spinalis*. Thus much of the *Vertebræ* in general; but becauſe they are not all alike, we ſhall therefore deſcend to a more particular Examination. The ſeven *Vertebræ* of the Neck differ from the reſt in this, that they are ſmaller and harder. Secondly, That their tranſverſe Proceſſes are perforated for the Paſſage of the vertebral Veſſels. Thirdly, That their acute Proceſſes are forked and ſtrait; but beſides this, the firſt and ſecond have ſomething peculiar to themſelves. The firſt, which is called *Atlas*, is tied to the Head, and moves with it upon the ſecond ſemicircularly; its aſcending oblique Proceſſes receive the Tubercles of the *Occiput*, upon which Articulation the Head is only moved forwards and backwards; and its deſcending Proceſſes receive the aſcending Proceſſes of the ſecond *Vertebra.* It has no acute Proceſs, that it might not hurt the Action of the *Muſculi Recti*; but a ſmall Tubercle, to which the ſmall Ligament of the Head is inſerted. In the fore-part of its great Hole it has a pretty large *Sinus*, in which lies the Tooth-like Proceſs of the ſecond *Vertebra*, being faſten'd by a Ligament that riſes from each ſide of the *Sinus*, that it compreſs not the *Medulla Spinalis.* It has two ſmall *Sinus's* in its upper-part, in which the tenth Pair of Nerves and the vertebral Arteries lie. The ſecond is call'd *Epiſtropheus*, or *Vertebra Dentata*; in the middle between its two oblique aſcending Proceſſes, it has a long and round Proceſs like a Tooth, which is received into the fore-ſaid *Sinus*; upon it the Head with the firſt *Vertebra* turns half round, as upon an Axis. The Extremity of this Proceſs is knit to the *Occiput* by a ſmall but ſtrong Ligament. A Luxation of this Tooth is mortal, becauſe it compreſſes the *Medulla Spinalis.* The third *Vertebra* is called *Axis*; and the four following have no name, nor any peculiar difference. The twelve *Vertebræ* of the Back differ from the reſt in this, that they are larger than thoſe of the Neck, and ſmaller than thoſe of the Loins; their acute Proceſſes ſlope downwards upon one another: they have in each ſide of their Bodies a ſmall dimple, wherein they receive the round Extremities of the Ribs; and another in their tranſverſe Proceſſes, which receives the little Tubercle near that Extremity of the Ribs. The Articulation of the twelfth with the firſt of the Loins is by *Arthrodia*, for both its aſcending and deſcending oblique Proceſſes are received. The five *Vertebræ* of the Loins differ from the reſt in this, that they are the broadeſt, and the laſt of them is the largeſt of all the *Vertebræ.* Their acute Proceſſes are broader, ſhorter, and wider from one another, their tranſverſe longer, to ſupport the Bowels, and the Muſcles of the Back; they are not perforated as thoſe of the Neck, nor have they a Dimple or *Sinus* as thoſe of the Back. The Cartilages which are betwixt their Bodies are thicker than any of the reſt. The *Vertebræ* of the *Os Sacrum* grow ſo cloſe together in Adults, as that they make but one large and ſolid Bone, of the Figure of an *Iſoſceles* Triangle, whoſe Baſis is tied to the laſt *Vertebra* of the Loins, and the upper part of its ſides to the *Ilia*, and its Point to the *Os Coccygis.* It is concave and ſmooth on its fore-ſide, but convex and unequal on its back-ſide. It hath five Holes on each ſide, but the Nerves paſs only thro' the five on its fore-ſide. Its acute Proceſſes or Spines are ſhorter and leſs than thoſe of the Loins, and the lower is always ſhorter than the upper. The *Os Coccygis* is joined to the Extremity of the *Os Sacrum*; it is compoſed of three or four Bones, of which the lower is ſtill leſs than the upper, till the laſt ends in a ſmall Cartilage; it reſembles a little

Tail turn'd inwards: its Uſe is to ſuſtain the ſtrait Gut; it yields to the Preſſure of the *Fœtus* in Women in Travail, and Midwives uſe to thruſt it backwards, but ſometimes rudely and violently, which is the occaſion of great Pain, and of ſeveral bad Effects. From what has been ſaid, it is eaſy to underſtand how the Motion of the Back is performed: tho each particular *Vertebra* has but a very ſmall Motion, yet the Motion of all is very conſiderable. We have ſaid, that the Head moves only backwards and forwards upon the firſt *Vertebra*, and ſemi-circularly upon the ſecond. The ſmall Protuberance which we have remarked in the Bone of the hind Head, falling upon another in the firſt *Vertebra*, ſtops the Motion of the Head backwards, that it compreſs not the Spinal Marrow; and when the Chin touches the *Sternum*, it can move no farther forwards. The oblique or ſemi-circular Motions are limited by the Ligament which ties the Proceſs of the ſecond *Vertebra* to the Head, and by thoſe which tie the firſt to the ſecond *Vertebra*. The Motion of the other *Vertebræ* of the Neck is not ſo manifeſt; yet it is greater than that of the *Vertebræ* of the Back, becauſe their acute Proceſſes are ſhort and ſtrait and the Cartilages which are between their Bodies thicker. The twelve *Vertebræ* of the Back have the leaſt Motion of any, becauſe their Cartilages are thin, their acute Proceſſes are long, and very near to one another; and they are fixed to the Ribs, which neither move forwards nor backwards. But the greateſt Motion of the Back is performed by the *Vertebræ* of the Loins, becauſe their Cartilages are thicker, and their acute Proceſſes are at a greater diſtance from one another; for the thicker the Cartilages are, the more we may bend our Body forwards; and the greater diſtance there is betwixt the acute Proceſſes, the more we may bend our ſelves backwards. This is the Structure and Motion of the *Vertebræ*, when they are in their natural Poſition: but we find them alſo in ſeveral Perſons ſeveral ways diſtorted. If the *Vertebræ* of the Back ſtick out, ſuch as have this Deformity are ſaid to be Bunch-back'd; and in ſuch the Cartilages which are between the *Vertebræ* are very thin and hard forwards, but conſiderably thick backwards, where the oblique Proceſſes of the ſuperior and inferior *Vertebræ* are at a conſiderable diſtance from one another, which diſtance fills up with a viſcous Subſtance. This inequality of the thickneſs of the Cartilages happens either by a Relaxation or Weakneſs of the Ligaments and Muſcles, which are faſtened to the back-ſide of the *Vertebræ*: in which Caſe their Antagoniſts finding no Oppoſition, remain in a continual Contraction, and conſequently there can be no Motion in theſe *Vertebræ*. If this Deformity has been from the Womb, then the Bones being at that time ſoft and tender, the Bodies of the *Vertebræ* partake of the ſame Inequality as the Cartilages. If the Bunch be towards one Shoulder, for example, towards the right, then the Cartilages on that ſide are very thick, but thin and dry on the other ſide: on the left ſide the oblique *Apophyſes* come cloſe together, but on the right there is a conſiderable diſtance betwixt them; and the Ligaments and Muſcles are greatly extended on the right ſide, but thoſe on the left are much contracted. If the *Vertebræ* are diſtorted inwards, all things have a different Face: The Cartilages, and ſometimes the *Vertebræ*, are very thick forwards, but very thin and hard backwards: The acute and oblique Proceſſes are very cloſe to one another, and the Ligaments upon the Bodies of the *Vertebræ* are greatly relaxed, but the Muſcles and Ligaments which tie the Proceſſes together are very much contracted. Theſe Diſtortions ſeldom happen in the *Vertebræ* of the Loins; but ſuch as are ſo miſerable, have little or no Motion of their Back.

Vertex, is the Crown of the Head, ſituate between the *Sinciput* and *Occiput*; hence alſo figuratively it is uſed for the Top of any Thing. And hence,

Verticillate Plants, are ſuch as have their Flowers intermixed with ſmall Leaves growing in a kind of Whirls about the Joints of a Stalk, as Penny-Royal, Hore-hound, *&c.*

Verticity, is the Property of the Load-ſtone, to turn to a particular Point.

Vertigo: This is the Appearance of viſible Objects that are without Motion, as if they turned round, attended with a Fear of Falling, and a Dimneſs of Sight. Now it is manifeſt, that an Object will ſeem to move circularly, if the Images which proceed therefrom, fall ſucceſſively upon different Parts of the *Rentina*: As for inſtance, going towards the left ſide, while the Object is really without Motion, and the Images flowing therefrom always repreſent the ſame Diſtance, ſuch an Object will appear moving in a Circle; for in the *Retina* the Images are reverſed, and painted in a contrary Situation. And this may be done when the Object is at reſt, and the Eye only moved; for whether the Object moves, and the Eye is at reſt, or the Object reſts while the Eye is moved, the Rays ſtreaming from the Object will not fall upon the ſame Part of the Bottom of the Eye: And therefore ſince we judge of the Changeableneſs of Place in which an Object exiſts, from the Changeableneſs of the Place where the Object is painted; an Object abſolutely at reſt may ſeem to turn round by the Eye being in motion. Again, the Object and Eye being both without Motion, the Rays will not always fall upon the ſame Place, if the optick Nerve be alone in Motion; and therefore ſince a right and an oblique Incidence do not excite the ſame Tremors in the Nerves, and the ſame Species of Motion, if the optick Nerve only be moved, and the Object be at reſt, it will appear to ſhift its Situation, that is, by the Change of Place in which it is repreſented.

Veſica. See *Bladder*, which it ſignifies: whence from their reſemblance in ſhape,

Veſica Biliaria, is the Bag which holds the Gall. See *Liver*. And,

Veſica Urinaria, is a Diſtinction ſometimes given to the common Bladder.

Veſicatoria, are external Applications, which occaſion

Veſication: which is the riſing up of Bliſters, or little Bladders.

Veſicula, a Diminutive of *Veſica*, and applied to the ſame Parts, or thoſe that are ſmaller in Bulk; as the

Veſiculæ Adipoſæ. See *Fat*: and

Veſiculæ Seminales. See *Generation Parts of, proper to Men.*

Veſpertilionum Alæ, Bats Wings, ſo called from their Shape. See *Generation Parts of, proper to Women.*

Veſtibulum, is a Cavity in the *Os Petroſum*, behind the *Feneſtra Ova-*

tis, and is cover'd with a fine Membrane. See *Cranium*.

Veterinaria, otherwiſe called *Mulo-medicina*, is that part of Medicine which has the Bodies of Cattle for its Object; and was in good eſteem among the Antients; but the Moderns have left it wholly to be manag'd by illiterate Perſons; tho if it were to fall into good Hands it might greatly conduce to the Improvement of the Art of Phyſick in general: *Vegetius* has wrote a Book upon this Subject, under the Title of *Mulo-Medicina*.

Vibration, is properly the Swing or Motion of a *Pendulum*, and thence comes to be uſed for all tremulous or undulating Motions having any reſemblance thereunto.

Vigilia, Watching. See *Narcoticks*.

Villi, in Anatomy, are the ſame as Fibres; and in Botany ſmall Hairs like the Grain of Pluſh or Shag, with which, as a kind of Excreſcence, ſome Trees do abound.

Virga, is ſometimes uſed for the *Penis*; and in Botany for Sprouts, or Suckers.

Virginale Clauſtrum, the ſame as *Hymen*.

Virgineus Morbus, the Virgin's Diſeaſe, the ſame as *Chloroſis*.

Virus, ſignifies ſtrictly any Poiſon. Hence,

Virulent, is uſed for a Diſtemper attended with dreadful Symptoms.

Vis, ſignifies any Force. Whence,

Vis Acceleratrix. See *Acceleration*. And,

Vis Centrifuga. See *Centrifugal Force*. And,

Vis Centripeta. See *Centripetal Force*. And,

Vis Inertiæ. See *Nature Laws of*. And,

Vis Motrix. See *Motion*. And

Vis Stimulans. See *Stimulate*.

Vis vitæ, is uſed particularly by the learned *Boerhaave*, to ſignify the joint Action of all the Parts of a human Body, whereby the Machine is continually recruited and put in order. But when any thing proves too hard to be conquer'd by this *Vis*, a Diſeaſe enſues; Nature is over-burthen'd, and if it cannot be leſſen'd or thrown off, the Diſeaſe either proves mortal, or becomes incurable.

Viſcera, ſignifies any of the Bowels or Intrails, all which may commodiouſly be divided into three kinds, *viz.* *Chylopœa*, *Uropœa*, and *Spermatopœa*, or Veſſels ſerving for the Preparation of the Chyle, the Urine, and the Seed.

Viſion. For the phyſical Cauſe of Viſion, ſee *Eye*. And the manner by which external Objects do affect the naked Eye, is thus explain'd to us by the Writers in Opticks.

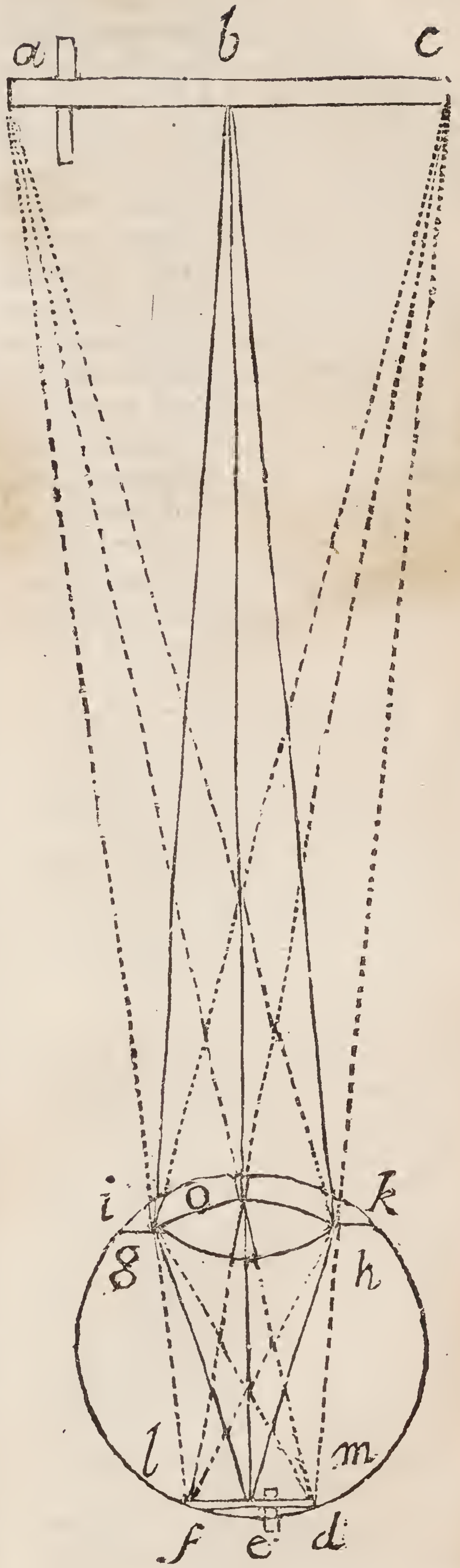
Suppoſe *a b c* an Object, *i k l e m* the Globe of the Eye, furniſhed with all its Coats and Humours; but here the Cryſtalline Humour, *g o h*, is only expreſſed, as being principally concerned in forming the Image in the Fund of the Eye.

1. From each Point of the Object we may conceive Rays flowing to the Pupil of the Eye *i k*; as here from the middle Point, *b* there proceed the Rays *b g*, *b o*, *b h*; theſe by means of the Coats and Humours of the Eye, and eſpecially by the Cryſtalline Humour *g h*, are refracted and brought together on the *Retina*, or Fund of the Eye, in the Point *e*; and there the Point *b* is repreſented. For we may conceive the Cryſtalline Humour *g h*, as it were a Convex-Glaſs, in the Hole of a dark Chamber *i l m k*, and that *d e f* is the diſtinct Baſe of this Glaſs.

What is here ſaid of the Point *b*, and its Repreſentation at *e*, may be underſtood of all the other Points in the Object, as of *a* and *e*, and their Repreſentations at *f* and *d*: For, according to Sir *Iſaac Newton*'s beſt Hypotheſis of Light, each Ray has its innate Colour, and ſo will repreſent it where it falls.

2. As in a dark Chamber that has a Hole furniſhed with a Convex-Glaſs, if the Paper that is to receive the Image in the diſtinct Baſe, be either nigher to, or further from the Glaſs than its due Diſtance, the Repreſentation thereon is confuſed: For then the Radius Pencils do not exactly determine with their Apices on the Paper; but thoſe from one Point are mix'd and confus'd with thoſe from the adjacent Point. So in the caſe of plain Viſion, 'tis requiſite that the Pencils ſhould exactly determine their Apices at *d e f*, on the *Retina*, or elſe Viſion is not diſtinct.

Therefore Nature has ſo contrived the Eye, that it ſhould have a power of adapting it ſelf in ſome meaſure to nigh and diſtant Objects; for they require different Conformation of the Eye, becauſe the Rays proceeding from the luminous Points of nigh Objects, do more diverge than thoſe from more remote Objects. But whether this variety of Conformation conſiſts in the Cryſtalline's approaching nigher to, or removing further from the *Retina*, or in the Cryſtalline's aſſuming a different Convexity, ſometimes greater, ſometimes leſs, according as is requiſite, is left to the Scrutiny of others, and particularly the curious Anatomiſts. This only may be ſaid, that either of theſe Methods will ſerve to explain the various *Phænomena* of the Eye: and that both theſe may attend each other, *viz.* a



leſs Convex-Cryſtalline requires an Elongation of the Eye, and a more Convex-Cryſtalline requires a ſhortning thereof; as a more flat convex Object-Glaſs, or of a larger Sphere, requires a longer Tube: and one protuberant, bulging, or of a ſmaller Sphere, requires a ſhorter Tube.

3. By the former Figure we perceive the Rays from each Point of the Object are all confuſed together on the Pupil in *g h*, ſo that the Eye is placed in the Point of the greateſt Confuſion: But by means of the Humours and Coats thereof, each Cone of Rays is ſeparated, and brought by it ſelf to determine in its proper Point on the *Retina*, there painting diſtinctly the vivid Repreſentation of the Object, which Repreſentation is there perceiv'd by the ſenſitive Soul.

4. We are likewiſe to obſerve, That the Repreſentation of the Object *a b c*, on the Fund of the Eye *f e d*, is inverted: For ſo likewiſe it is on Paper in a dark Room; there being no other way for the Radius Cones to enter the Eye, or the dark Chamber, but by their Axis *a o*, *b o*, *c o*, croſſing in the Pole *o* of the Cryſtalline or Glaſs.

But how comes it to paſs, that the Eye receiving the Repreſentation of a part of an Object on that part of its Fund which is lowermoſt, or nigheſt the Centre of the Earth, perceives that part of the Object as uppermoſt, or fartheſt from the Centre of the Earth? In anſwer to this, let us imagine that the Eye, in the Point *f*, receives an Impulſe or Stroke by the Protruſion fowards of the luminous Axis *a o f*, from the Point of the Object *a*; muſt not the viſive Faculty be neceſſarily directed hereby to conſider the Stroke, as coming from the Top *a*, rather than from the Bottom *c*; and conſequently ſhould be directed to conclude *t*, the Repreſentation of the Top?

Therefore we may be ſatisfy'd, by ſuppoſing a Man ſtanding on his Head: For here, tho the upper parts of Objects are painted on the upper parts of the Eyes, yet the Objects are judged to be erect. And from this Poſture of a Man, the reaſon appears why we have uſed the Words fartheſt from and nigheſt to the Centre of the Earth, rather than upper and lower; for in this Poſture, becauſe the upper Parts of the Objects are painted on that part of the Eye nigheſt the Earth, (tho really the upper part of the Eye) they are judged to be fartheſt removed from the Earth.

What is ſaid of Erect and Reverſe, may be underſtood of Siniſter and Dexter.

5. The Image of an erect Object being repreſented on the Fund of the Eye inverted, and yet the ſenſitive Faculty judging the Object erect, it follows, that when the Image of an erect Object is painted on the Fund of the Eye erect, the Senſe judges that Object to be inverted.

6. The Magnitude of an Object is eſtimated by the Angle the Object ſubtends before the Eye. Thus, the Length of the Object *a c*, is eſtimated by the Angle *a o c*, *f o d*; and this is called the Optick Angle.

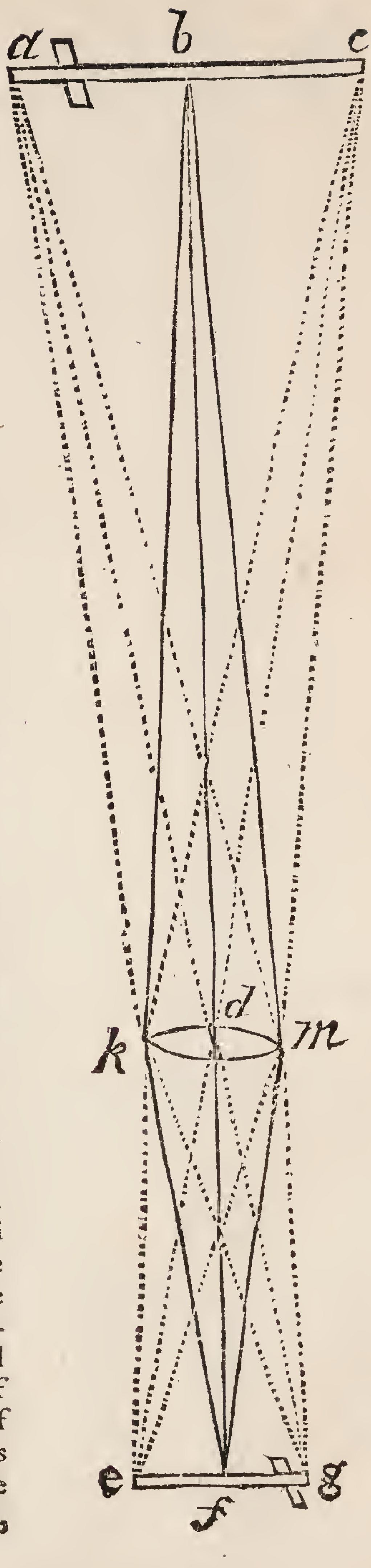
Whence it follows, that if the Eye were placed inſtead of the Glaſs at *d* (Fig. 2.) and *a b c*, or *e f g*, were Objects, the Eye would perceive them of equal Bigneſs.

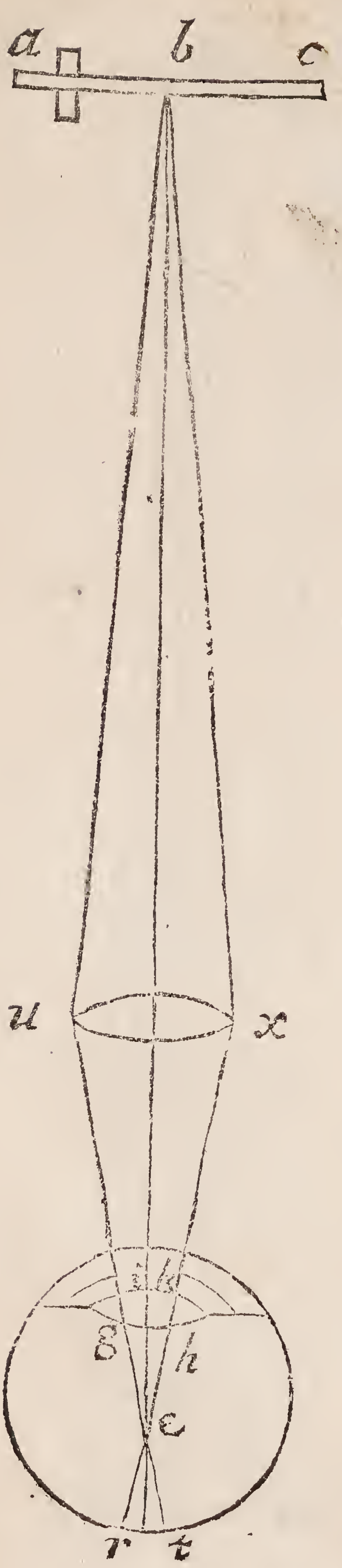
The Point *o*, which is the Vertex of the Optic Angle, is variouſly aſſigned by various Authors: ſome placing it in the Centre of the Eye; others in the Vertex of the Cryſtalline; others in the Vertex of the outward Coat or Serena of the Eye: but 'tis a Matter of no great conſequence where-ever we place it; for according to the Bigneſs of this Angle *a o e*, the Image on the Fund of the Eye is bigger or leſs.

7. We perceive the Rays that flow from the Point *b* do proceed to the Eye diverging, as *b g*, *b o*, *b h*. And if the Object *a c* were infinitely diſtant from the Eye, or ſo diſtant from the Eye, that the Breadth of the Pupil *i k* were inſenſible in compariſon to this Diſtance; then the Rays *b g*, *b o*, *b h*, would proceed, as if it were parallel, and ſo fall on the Eye: In both which Caſes, by means of the Refractions of the Eye, they are brought together, and point the Image of the Point *b* on the Fund of the Eye at *e*.

But if the diverging Rays *b u*, *b x*, (Fig. 1.) that flow from the Point *b*, meet the Convex-Glaſs *u x*, and are thereby made to converge, as *u i*, *x k*, and ſo fall on the Eye, and there paſſing thro' the Cryſtalline *g h*, are made to converge yet more, as *i e*, *k e*: here they croſs in the Point *e*, before they reach the *Retina r t*, and conſequently do paint thereon the Image of the Point *b*, confuſedly, for 'tis planted on the ſpace *r t*; whereas to cauſe diſtinct Viſion, it ſhould only be painted on a correſpondent Point on the *Retina*.

And this is the Fault of their Eyes, who are called *Myopes*, purblind, or ſhort-ſighted: for in them the Cryſtalline is too convex (as in Fig. 3. both the Convex-Glaſs and Cryſtalline joined together, make too great a Convexity) uniting the Rays before they arrive at the *Retina*: And therefore they are helped by Concave-Glaſſes, which take off from the too great Convexity of their Cryſtalline, ſome part of its refractive Power: Or rather theſe Concaves make the Rays diverge ſo,





that their Cryſtalline ſhall be ſufficient only to bring them again together, ſo that they be not touched, till they arrive at the Fund of the Eye.

Myopes are alſo helped by holding the Object very near; for then the Rays that fall on their Eye from any ſingle Point, do more diverge than when the Eye is farther from the Point, and conſequently their too convex Cryſtalline doth but ſuffice to bring them together on the *Retina.*

8. On the contrary, the Eyes of old Men have their Cryſtalline too flat (as Fig. 4) and cannot correct the Divergence of the Rays *b u*, *bk*, to make them between the *Retina* *r t*, but beyond the Eye at *e.* Whereſore for their help it is requiſite they add the adventitious Convexity of a Glaſs, that both it and the Cryſtalline together, may be ſufficient to unite the Rays juſt at the *Retina.* And from hence it appears, that Spectacles help old Men, not by magnifying an Object, but by making its Appearance diſtinct; for old Men cannot read the largeſt Print without Spectacles, and yet with Spectacles they read the ſmalleſt; tho theſe with Spectacles do not appear ſo large as thoſe without Spectacles.

9. What is ſaid of the confuſed or diſtinct Repreſentation of a Point in the Object, may be underſtood of the confuſed or diſtinct Repreſentation of the whole Object; at leaſt for thoſe Parts that lie pretty nigh adjacent to that Point that is looked at. For here we do not ſee a Point, in the ſtrict Senſe of the Mathematicians, but in a phyſical Senſe, for the ſmalleſt Part imaginable; and the whole Object conſiſting of ſuch Points, what is ſhewn of one Point, may be underſtood of every Point in the Object.

Diſtinct Viſion is cauſed when the Pencils of Rays from each Point of an Object do accurately determine in correſpondent Points of the Image on the *Retina.*

Confuſed Viſion is cauſed when theſe Pencils intermix one with another.

Clear Viſion is cauſed by a great Quantity of Rays in the ſame Pencil, illuminating the correſpondent Points of the Image ſtrongly and vigorouſly.

Faint Viſion is when a few Rays make up one Pencil: and tho this may be diſtinct, yet 'tis dark and obſcure; at leaſt not ſo bright and ſtrong, as if more Rays concurred.

Viſitation: Epidemical and Peſtilential Diſeaſes, are by ſome thus called, from a Suppoſition of their being ſent immediately from Heaven, as a Token of Divine Wrath.

Viſual Point, is in the Horizontal Line, wherein all the ocular Rays unite; as when a Perſon ſtands in a ſtrait long Gallery, wherein looking forward, the Sides, Floor, and Ceiling ſeem united, and touch one another in a Point or common Centre.

Viſual Rays. See *Rays.*

Vita, Life, is a circulating Blood.

Vital, is every thing having Life: And,

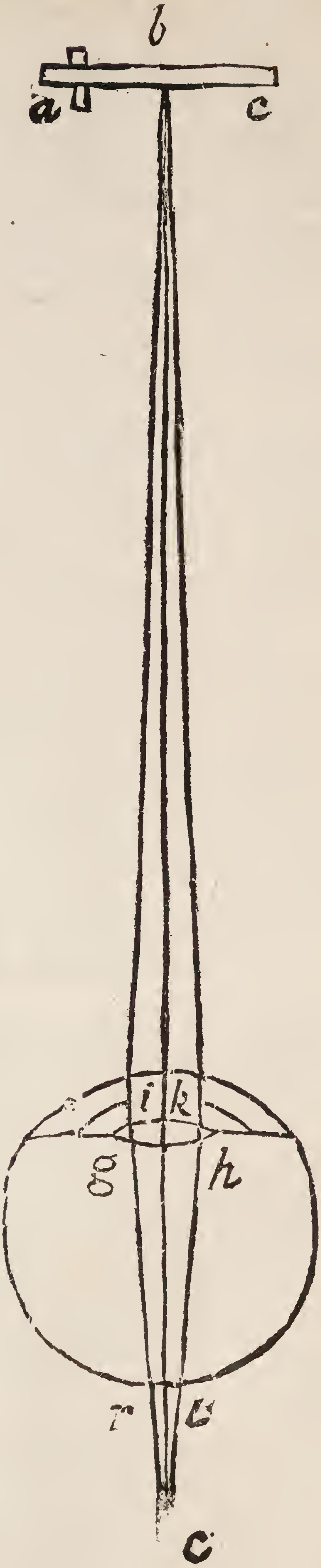
Vital Faculty, is that whereby the Heart and Arteries beat, and keep on the due Motion of the Blood. This is abſolutely neceſſary to the continuance of Life.

Vitrification, is changing any thing into Glaſs.

Viviparous, from *vivus,* alive, and *pario,* to bring forth; are all ſuch Creatures as bring forth their Young living and perfect.

Ulceration, and,

Ulcus, is a preternatural Diſcharge of Matter of various kinds from any



Part, from a Solution or a Diſcontinuity of Texture.

Ulna, called alſo ſometimes *Focile Majus*, and *Cubitus*, is a long and hard Bone, with a Cavity in its middle; it lies on the inſide of the Fore-Arm, reaching from the Elbow to the Wriſt. It is big at its upper end, and grows ſmaller to its lower end. At its upper it has two Proceſſes, which are receiv'd into the fore and hind *Sinus's* of the Extremity of the *Humerus*. The foremoſt Proceſs is ſmall and ſhort. The hindmoſt, called 'Ολέκρανον, is bigger and longer: It ſtays the Fore-Arm when it comes to a ſtreight Line with the Arm. Betwixt theſe Proceſſes it has a ſemi-circular *Sinus*, which receives the inner Protuberance of the lower end of the *Humerus*, upon which we bend and extend our Fore-Arm. And along the middle of that there runs a ſmall Ridge, by which this Bone is articulated to the *Humerus* by *Ginglymus*. Had the Articulation here been an *Arthrodia*, the Joint muſt have been much weaker, but the Hand could have receiv'd no more Motion from it than it has now from the Shoulder.

The Inſide of this upper End has a ſmall *Sinus*, which receives the Circumference of the round Head of the *Radius*. Its lower Extremity, which is round and ſmall, is receiv'd into a *Sinus* in the lower end of the *Radius*; and upon this Extremity it has a ſhort and ſmall Proceſs, from which the Ligaments which tie it to the Bones of the Wriſt ariſe. This Proceſs ſerves to keep the Bones of the Wriſt in their place.

Umbilicus, is properly the Navel; which is a Collection of Veſſels wrapped up in a Production of the *Chorion*, and *Amnion*, which is generally about a Foot and a half long, that the Motion of the *Fœtus* might not pull the *Placenta* from the Womb.

Umbelliferous Plants, are ſuch as have their Tops branched and ſpread out like an Umbrella, on each little Subdiviſion of which there is growing a ſmall Flower; as Fennel, Dill, *&c.* and the Tops of theſe are called *Umbels* by ſome Writers.

Unguis, a Nail, which ſee.

Unguis Os. See *Maxilla Superior*.

Uniform Motion. See *Equable Motion*.

Voice. See *Larynx*.

Vola, is the Palm of the Hand.

Volatility. See *Sublimation*.

Volvulus. See *Iliac Paſſion*.

Vomer Os. See *Maxilla Superior*.

Vomica Pulmonum, is uſed indifferently for a *Polypus*, or any Collection of foreign Matter in the Lungs; but in ſtrictneſs ſignifies an Ulcer therein, which diſcharges a concreted Matter; ſometimes mix'd with Blood from a Corroſion of the Veſſels.

Vomitorium, the ſame as *Emetick*.

Urachus. See *Fœtus*.

Urent, any thing that is hot and burning, from *uro*, to burn.

Ureters, are two long and ſmall Canals, which come from the Baſon of the Kidneys, one on each ſide. They lie between the Doubling of the *Peritonæum*, and deſcending in the form of an *S*, they pierce the Bladder near its Neck, where they run firſt ſome ſpace betwixt its Coats, and then they open in its Cavity. They are compoſed of three Coats: The firſt is from the *Peritonæum*: The ſecond is made of ſmall oblique muſcular Fibres: And the third, which is very ſenſible, has ſeveral ſmall Glands, which ſeparate a ſlimy Liquor to defend it againſt the Acrimony of the Urine. The neighbouring Parts furniſh'd them with Blood-Veſſels, and their Nerves come from the Intercoſtals, and from the *Vertebræ* of the Loins. Their Cavity is ſometimes contracted in three or four Places, eſpecially towards the Bladder. Such as are ſubject to the Gravel, and given to exceſſive Drinking, have them ſometimes ſo much dilated, that one may put the End of one's little Finger into them. Their Uſe is to carry the Urine from the Kidneys to the Bladder: And their Obſtruction cauſes a Suppreſſion of Urine.

Urethra, is a Pipe along the under Side of the *Corpora Cavernoſa*, which is about 12 or 13 Inches long, beginning at the Neck of the Bladder, from which it receives the Urine; and bending to the lower Part of the *Os Pubis*, it turns up to the Roots of the *Corpora Cavernoſa*, and is continued to the End of the Yard. The Sides of this Pipe are compoſed of two Membranes, and a middle ſpungy Subſtance like that of the *Corpora Cavernoſa*, except at the End which joins the Neck of the Bladder, where the Diſtance between the Membranes is ſmall, and fill'd up with a thin and red glandulous Subſtance, whoſe excretory Ducts piercing the inner Membrane, pour into the Pipe a mucilaginous Liquor. *See Generation Parts of, proper to Men.*

Urinaria Fiſtula, the ſame as *Urethra*, ſo call'd from its Office, to convey the

Urine, which is that Part of the Blood that waſhes off by the Kidneys. And,

Urinous, is any thing reſembling Urine, in its moſt ſenſible Qualities, as Saltneſs, Smell, *&c.*

Uterine Medicines, are thoſe which tend to promote the natural Diſcharges of that Part, or ſuch as are ſuppos'd principally to affect it.

Uterus, the Womb. See *Generation Parts of, proper to Women.*

Uvea Membrana, and

Uvea Tunica. See *Eye.*

Vulneraria, from *Vulnus*, a Wound, are healing Medicines; the ſame as *Traumatick*, which ſee.

Vulva. See *Generation Parts of, proper to Women.*

Vulva Cerebri, an oblong Furrow in the Brain, ſo called from its Likeneſs in Figure to the *Vulva*.

Uvula. See *Mouth.*

W.

W*Aking*. See *Narcoticks.*

Water, which the Chymiſts call *Phlegm*, is the fourth of the five Chymical Principles, and one of the Paſſive ones. 'Tis never drawn pure and unmix'd, which makes it a little more deterſive than common Water. This Principle probably contributes much to the Growth of Bodies, in that it both renders and keeps the active Principles fluid; ſo that they are capable of being convey'd by Circulation into the Pores of the mix'd; and alſo, becauſe it tempers their exorbitant Motion, and keeps them together, ſo that they are not ſo eaſily and ſoon diſſipated. In all ſuch Bodies whoſe active Subſtances are joined and united pretty cloſely together, as in common Salt, Tartar, all Plants that are not odoriferous, and in many animal Bodies, this Principle is the firſt that comes in Diſtillation. But when Water is mixed with volatile Salts, or with the Spirit of Wine, or is in any odoriferous Mixtures, then the volatile Particles will riſe and come away firſt.

Sir *Iſaac Newton* defines Water

(when pure) to be a very fluid Salt; volatile, and void of all Savour or Taſte; and it ſeems to conſiſt of ſmall, ſmooth, hard, porous, ſpherical Particles, of equal Diameters, and of equal ſpecifick Gravities, as Dr. *Cheyne* obſerves; and alſo that there are between them ſpaces ſo large, and ranged in ſuch a manner, as to be pervious on all ſides. Their *Smoothneſs* accounts for their ſliding eaſily over one another's Surfaces: Their *Sphericity* keeps them alſo from touching one another in more points than one; and by both theſe their *Frictions* in ſliding over one another, is render'd the leaſt poſſible. Their *Hardneſs* accounts for the *Incompreſſibility* of Water, when 'tis free from the Intermixture of Air. The *Poroſity* of Water is ſo very great, that there is at leaſt forty times as much Space as Matter in it, for Water is nineteen times ſpecifically lighter than Gold, and conſequently rarer in the ſame Proportion. But Gold will by preſſure let Water paſs thro' its Pores, and therefore may be ſuppoſed to have (at leaſt) more Pores than ſolid Parts. Now 'tis this great Poroſity of Water, that accounts for its different ſpecifick Gravity, in compariſon of *Mercury* or other Fluids, and alſo why it is more eaſily concreted into a ſolid Form, by adventitious matter in Freezing, than other Fluids are. Dr. *Cheyne* obſerves rightly, that the Quantity of Water on this ſide our Globe doth daily decreaſe, ſome part thereof being every day turned into *Animal*, *Vegetable*, *Metalline*, or *Mineral* Subſtances; which are not eaſily diſſolved again into their component Parts: for ſeparate a few Particles of any Fluid, and faſten them to a ſolid Body, or keep them aſunder one from another, and they are no more Fluid; for to produce Fluidity, a conſiderable number of ſuch Particles is requir'd. (See *Fluidity*.) Moſt of the Liquors, we know, are formed by the Coheſion of Particles of different Figures, Magnitudes, Gravities, and Attractive Powers, (ſee *Attraction* and *Particles*) ſwimming in pure Water, or an aqueous Fluid; which ſeems to be the common Baſis of all. And the only reaſon why there are ſo many ſorts of Water differing from one another by different Properties, certainly is, that here the Corpuſcles of Salts and Minerals, with which that Element is impregnated, are equally various. Wine is only Water, impregnated with Particles of Grapes, and Beer with Particles of Barley. All Spirits ſeem to be nothing but Water, ſaturated with ſaline or ſulphureous Particles. And all Liquors are more or leſs fluid, according to the greater or ſmaller Coheſion of the Particles, which ſwim in the aqueous Fluid: and there is hardly any Fluid without this Coheſion of Particles, not even pure Water it ſelf: as is apparent from the Bubbles which ſometimes will ſtand on its Surface, as well as on that of Spirits and other Liquors.

For the Preſſure of Water, and its Effects in Bathing, ſee *Baths*. And concerning Medicinal Waters, ſee alſo *Baths*, and *Balnea*.

Web. See *Pin* and *Web*.

Weight. See *Gravity*.

White Line. See *Linea Alba*.

Wind, is defin'd to be the Stream, or Current of the Air; and where ſuch Current is perpetual and fix'd in its Courſe, 'tis neceſſary that it proceed from a permanent unintermitting Cauſe. Wherefore ſome have been inclined to propoſe the diurnal Rotation of the Earth upon its Axis, by which, as the Globe turns Eaſtwards, the looſe and fluid Particles of the Air, being ſo exceeding light as they be, are left behind,

hind, ſo that in reſpect of the Earth's Surface, they move Weſtwards, and become a conſtant Eaſterly Wind. This Opinion ſeems confirm'd, in that theſe Winds are found only near the *Equinoctial*, in thoſe Parallels of Latitude, where the diurnal Motion is ſwifteſt: but the conſtant Calms in the *Atlantick* Sea, near the *Æquator*, the Weſterly Winds near the Coaſt of *Guinea*, and the periodical Weſterly *Monſoons* under the *Æquator* in the *Indian Seas*, ſeemingly declare the Inſufficiency of that Hypotheſis. Beſides, the Air being kept to the Earth by the Principle of Gravity, would in time acquire the ſame Degree of Velocity, that the Earth's Surface moves with, as well in reſpect of the diurnal Rotation, as of the annual about the Sun, which is about 30 times ſwifter. It remains therefore to ſubſtitute ſome other Cauſe, capable of producing a like conſtant Effect, not liable to the ſame Objections, but agreeable to the known Properties of the Elements of Air and Water, and the Laws of the Motion of fluid Bodies. Such an one is the Action of the Sun's Beams upon the Air and Water, as he paſſes every day over the Oceans, conſider'd together with the Nature of the Soil, and Situation of the adjoining Continents. Therefore, according to the Laws of *Staticks*, the Air, which is leſs rarefy'd or expended by Heat, and conſequently more ponderous, muſt have a Motion round thoſe Parts thereof, which are more rarefy'd, and leſs ponderous, to bring it to an *Æquilibrium*; alſo the Preſence of the Sun continually ſhifting to the Weſtward, that part towards which the Air tends, by reaſon of the Rarefaction made by his greateſt Meridian Heat, is with him carry'd Weſtward, and conſequently the tendency of the whole Body of the lower Air is that way. Thus a general Eaſterly Wind is formed, which being impreſſed upon all the Air of a vaſt Ocean, the Parts impel one the other, and ſo keep moving till the next Return of the Sun, whereby ſo much of the Motion as was loſt, is again reſtor'd; and thus the Eaſterly Wind is made perpetual. From the ſame Principle it follows, that this Eaſterly Wind ſhould on the North-ſide of the Equator be to the Northwards of the Eaſt, and in South Latitudes to the Southwards thereof; for near the Line the Air is much more rarefy'd than at a greater diſtance from it; becauſe the Sun is twice in a Year vertical there, and at no time diſtant above 23 Degrees $\frac{1}{2}$: at which Diſtance the Heat being as the *Sine of the Angle of Incidence*, is but little ſhort of that of the perpendicular Ray. Whereas under the *Tropicks*, tho the Sun ſtay long vertical, yet he is a long time 47 Deg. off; which is a kind of Winter, wherein the Air ſo cools, as that the Summer-Heat cannot warm it to the ſame degree with that under the *Equator*. Wherefore the Air towards the Northward and Southward being leſs rarefy'd than that in the middle, it follows, that from both ſides it ought to tend towards the *Equator*. This Motion compounded with the former Eaſterly Wind, anſwers all the *Phænomena* of the general Trade-Winds; which, if the whole Surface of the Globe were Sea, would undoubtedly blow all round the World, as they are found to do in the *Atlantick* and *Ethiopick* Oceans. But ſeeing that ſo great Continents do interpoſe and break the Continuity of the Oceans, regard muſt be had to the Nature of the Soil, and the Poſition of the high Mountains, which are the two principal Cauſes of the ſeveral Variations of the Wind from the former general Rule ; for if a Country lying near the Sun, prove to be flat, ſandy, and low Land, ſuch as the Deſarts of *Libya* are uſually reported to be, the Heat occaſion'd by the Reflexions of the Sun's Beams, and the Retention thereof in the Sand, is incredible to thoſe that have not felt it ; whereby the Air being exceedingly rareſy'd, it is neceſſary that this cooler and more denſe Air ſhould run thitherwards to reſtore the *Æquilibrium :* This is ſuppoſed to be the Cauſe, why near the Coaſt of *Guinea* the Wind always ſets in upon the Land, blowing Weſterly inſtead of Eaſterly, there being ſufficient Reaſon to believe, that the inland Parts of *Africa* are prodigiouſly hot, ſince the Northern Borders thereof were ſo intemperate, as to give the Antients cauſe to conclude, That all beyond the *Tropicks* was made uninhabitable by exceſs of Heat. From the ſame Cauſe it happens, that there are ſo conſtant Calms in that part of the Ocean, call'd the *Rains* ; for this Tract being placed in the middle, between the Weſterly Winds blowing on the Coeſt of *Guinea*, and the Eaſterly Trade-Winds blowing to the Weſtwards thereof, the Tendency of the Air here is indifferent to either, and ſo ſtands *in æquilibrio* between both ; and the Weight of the incumbent Atmoſphere, being diminiſh'd by the continual contrary Winds blowing from hence, is the reaſon that the Air here holds not the copious Vapour it receives, but lets it fall in ſo frequent Rains. But as the cool and denſe Air, by reaſon of its greater Gravity, preſſes upon the hot and rareſy'd, 'tis demonſtrative, that this latter muſt aſcend in a continual Stream, as faſt as it rarefies ; and that being aſcended, it muſt diſperſe it ſelf to preſerve the *Æquilibrium* ; that is, by a contrary Current the upper Air muſt move from thoſe Parts where the greateſt Heat is : ſo by a kind of Circulation, the North-Eaſt Trade-Wind below, will be attended with a South-weſterly above, and the South-eaſterly and North-weſt Wind above. That this is more than a bare Conjecture, the almoſt inſtantaneous Change of the Wind to the oppoſite Point, which is frequently found in paſſing the Limits of the Trade-Winds, ſeems to aſſure us ; but that which above all confirms this Hypotheſis, is the *Phænomenon* of the *Monſoons* by this means moſt eaſily ſolv'd, and without it hardly explicable. Suppoſing therefore ſuch a Circulation as above, 'tis to be conſider'd, that to the Northward of the *Indian* Ocean, there is every where Land within the uſual Limits of the Latitude of 30, viz. *Arabia*, *Perſia*, *India*, *&c.* which for the ſame reaſon, as the *Mediterranean* Parts of *Africa*, are ſubject to unſufferable Heats, when the Sun is to the North, paſſing nearly vertical ; but yet are temperate enough when the Sun is remov'd towards the other *Tropick*, becauſe of a Ridge of Mountains at ſome diſtances within the Land, ſaid to be frequently in Winter cover'd with Snow, over which the Air, as it paſſes, muſt needs be much chill'd. Hence it comes to paſs, that the Air coming according to the general Rule, out of the North-Eaſt in the *Indian* Sea, is ſometimes hotter, ſometimes colder, than that which by this Circulation is return'd out of the South-Weſt ; and by conſequence ſometimes the under Current, or Wind, is from the North-Eaſt, ſometimes from the South-Weſt. That this has no other Cauſe, is clear from the Times wherein theſe Winds ſet in, *viz.* in *April*, when the Sun begins to warm thoſe Countries to the North, the South-Weſt *Monſoons* begin, and blow during the Heats till *October*; when the Sun being retir'd, and all things growing cooler Northward, and the Heat increaſing to the South, the North-Eaſt enter and blow all the Winter till *April* again. And it is undoubtedly from the ſame Principle, that to the Southward of the *Æquator*, in part of the *Indian* Ocean, the North-Weſt Winds ſucceed the South-Eaſt, when the Sun draws near the *Tropick of Capricorn*. See *Tide*.

Wolf, is a Word vulgarly uſed to expreſs the Cancer in the Breaſt; which ſome are inclined to fancy a living Creature like the voracious Animal of the ſame Name. But Phyſicians uſe the Word *lupus*, to ſignify that kind of malignant, cancerous, or phagedænic Ulcer, which like a hungry Wolf eats away the Fleſh around it.

Wriſt. See *Carpus.*

X.

Xeraſia, ξηρασία, ſtrictly ſignifies Dryneſs, or any thing criſpy, for want of Moiſture; and is therefore uſed for a Species of the *Alopecia*, when the Hair falls off for want of due Nouriſhment. Hence likewiſe,

Xerodes, ξηρώδης, expreſſes any Tumour attended with the Property of Dryneſs; and,

Xerophthalmia, ξηροφθαλμία, is a *Lippitudo-ſicca*; where the Eye-Lids turn out red and dry, and ſo of many other things from the ſame Foundation.

Xiphia, ξιφίας or ξιφός, *Enſis*, a Sword: whence ſome Parts having reſemblance thereunto are compounded; as,

Xiphoides, the ſame as *Enſiformis Cartilago*; which ſee.

Xylo-aloes, is the Aloes-Wood, call'd alſo *Agillochum*, from ξύλον *Lignum*; whence it is alſo compounded with many other things; as the

Xylo-Balſamum,

Xylo-Cinnamomum, and

Xylo-Guaiacum, are the Wood's of the Balſam-Tree, Cinnamon, or Guaiacum.

Xyn, ξύν, the ſame as σὺν, is compounded with various Words at pleaſure; as *cum*, with, when changed into *con*, is in many *Latin* Compounds; particular Inſtances of which are needleſs to recite here.

Y.

YArd. See *Generation Parts of, proper to Men.*

Yerva, is by ſome uſed for the *Contrayerva*, a Root now much in eſteem for its alexipharmick Qualities.

Z.

Z*Accharum*, and according to ſome *Zuccarum*, was the antient Name for what we now write *Saccharum*, Sugar.

Zafran or *Zaffran*, ſignifies any thing of a yellow Colour, and antiently for that Reaſon applied chiefly to *Ochre*; but it now obtains only in the *Crocus*, which we write commonly in *Engliſh* Saffron.

Zaſora, is a mineral Subſtance, of the Nature of Biſmuth, uſed to tinge Glaſs of a blue Colour; and for the glazing of Earthen Veſſels.

Zibethum, is what is now commonly wrote *Cibethum*, Civet.

Zinck, is a metallick Marcaſite, which ſome alſo call *Spelter*.

Zizipha, is the ſame as the Jujeb, the Fruit of the Ziziph-Tree.

Zone: in what Senſe the Aſtronomers uſe it concerns us not here; but ſome phyſical Writers, from its proper ſignification of a Belt, have apply'd it to the Waſte; and ſome to a Species of the *Herpes* moſt common to that part, and vulgarly call'd the *Shingles*.

Zoogonia, ſignifies the Generation of a perfect living *Fœtus*, from ζῶον, *Animal*, and γονή, *genitura*.

Zoologia, Zoology, from ζῶον, *Animal*, and λόγος, *Sermo*, Diſcourſe; is any Treatiſe upon living Creatures; and is moſt commonly applied to that part of the *Materia Medica*, which is ſupplied from Animals.

Zootomy, from ζῶον, *Animal*, an Animal, and τέμνω, *ſeco*, to cut; is the Diſſection of living Creatures, in Anatomy.

Zygoma, the ſame as *Os Mali*, or *Jugale*. See *Cranium*.

Zygomaticus Muſculus, is a Muſcle that comes from the *Zygoma*, and paſſing obliquely, is inſerted near the Angle of the Lips. It helps to draw the Lips obliquely to a ſide.

Zygomaticus Proceſſus: Both the former are deriv'd from ζυγός, *Jugum*, a Yoke. See *Maxilla Superior*, and *Cranium*.

Zythogala, ζυθόγαλα, is Beer and Milk, which together makes what we commonly call *Poſſet-Drink*; a Term often to be met with in *Sydenham*.

ZZ; the Antients ſignified Myrrh by theſe two Letters, from ζμύρνη, a Name for it common amongſt them; but the late Writers uſe them only for the *Zinziber*, Ginger.

FINIS.